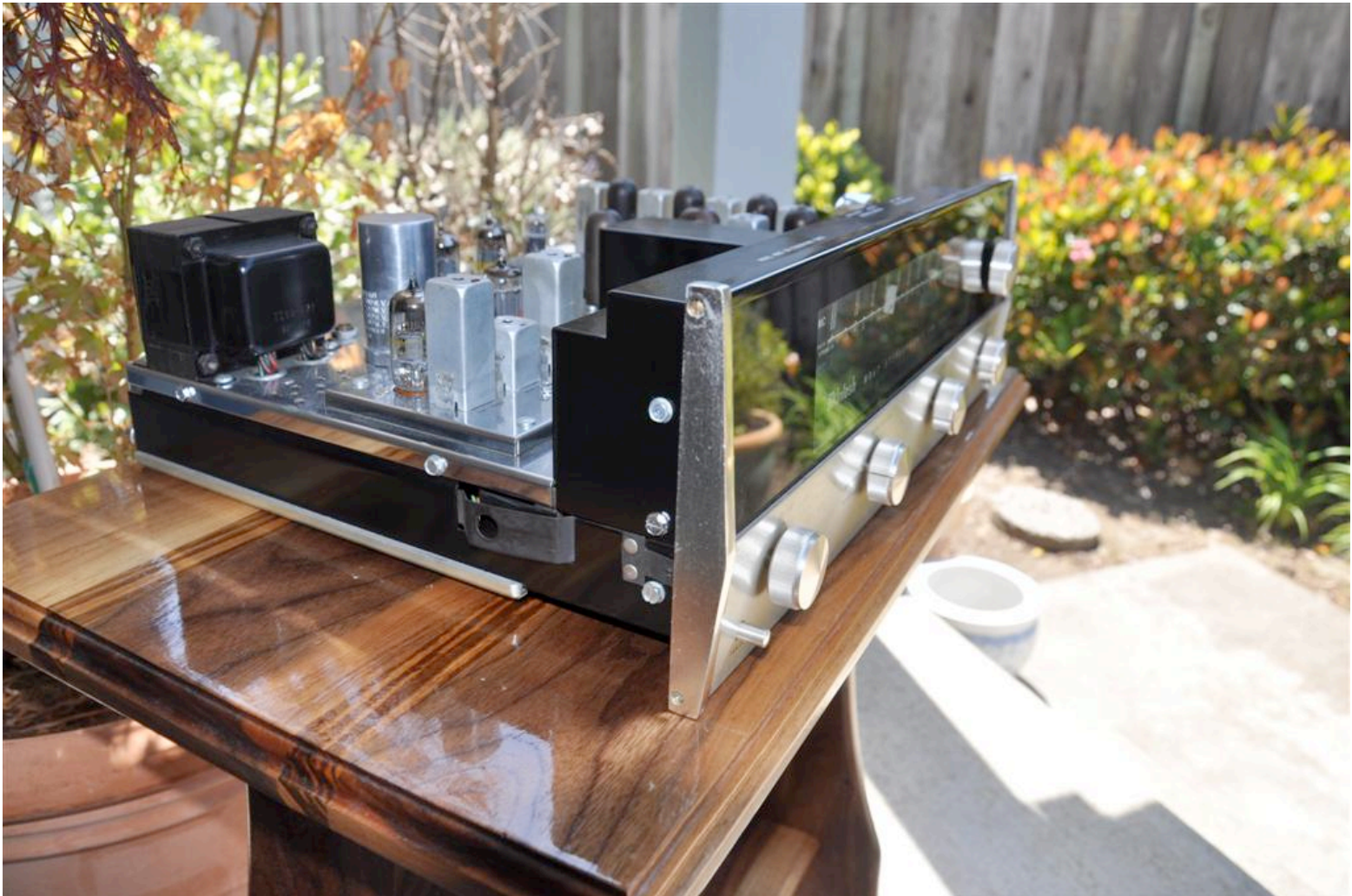


Affordable\$\$Audio

Issue Number 42: June 2009

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Note From The Editor

By Jeff Brown

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Hi everyone, I'm Jeff Brown. Judging from this portion of the May issue of this magazine and all of the work I have done this month to get this issue out, I'm thinking I must be the new editor of *Affordable\$\$Audio*. The writing staff is almost entirely the same, we have said our goodbyes to Mark and John. Most of you know Mark founded this magazine out of a love and passion that all of us share. John acted as Mark's right hand man and unofficial assistant editor for at least as long as I have worked with him. I personally will miss working with them both. I also know that this is the best possible path for both of them at this point in their lives. So keep in touch guys and your always welcome back.

Affordable\$\$Audio is in my opinion one of the best online magazines available today. Mark as the creator gets a lot of the credit for how it turned out. As an interesting coincidence his biggest influence though wasn't his writing style as much as his management style. Mark is excellent at stepping back and letting the writers find their own passions and chase them down. Mark was lucky enough to find writers with separate passions making the magazine automatically interesting. This writer's freedom is in my opinion one of the largest reasons for the magazine's success and also why I personally chose to write for this publication.

I entered the audio hobby several years ago. I always loved music, I just had never heard a really good stereo. I knew my stereo didn't sound very good, I just thought the only way to hear good music was to be there. Live performances to me were the only way to go. Now that my reference interconnects cost more then my whole system did back then, I'm still not sure how to beat the real thing. I know I'm getting closer though.

The hobby continues on, I have heard systems that cost more then my home and others that most could buy with a single week's paycheck. It has never particularly impressed me that a \$50,000 pair of speakers sounded wonderful. The logical conclusion for me was always that something that costs more then the median annual income of several state's, had better sound pretty dang awesome! Pretty early on I came to the realization that my system would probably always be a work in progress, I also learned that it would also never be all that expensive. Those \$50,000 speakers are awesome in the audio stores, but I don't think I'll be bringing them home anytime soon. My audio acquisitions have mostly been on a barter system. I have traded labor or computers for equipment, bought/traded used equipment and on rare occasions I have actually purchased equipment brand new from an audio dealer.

I decided a few years ago that I wanted to write audio reviews. I had been what I thought was an audiophile, there was just something a bit different about my opinions then the audio press and most of my audiophile friends who really loved that audio press. I was encouraged at first to follow my ears, pick equipment I liked and grow my system from there. I turned out my ears weren't expensive enough for some. I knew there were dozens if not hundreds of worthwhile companies designing and building quality audio products, but I never heard about them in the audio press. This caused me to become passionate about those smaller companies. This passion is one of the big reasons I wanted to work here at *Affordable\$\$Audio*. It has been a lot of fun to meet the excellent and passionate people who design and create these wonderful products.

Affordable\$\$Audio is an interesting and amusing magazine to read. What most of you don't know is that is is also an amazing publication to be a writer for. My interaction with *Affordable\$\$Audio* came first as a reader. I've long been a reader of this and several other online magazines. I originally liked the non-commercial nature of this particular publication. It seemed like the other onliners were trying their best to emulate the large print magazines. Picking up as many of the exact same equipment reviews as possible. *Affordable\$\$Audio* on the other hand seemed to march to the beat of its own drum. I'll drop a shameless plug that we are always looking for writers who share our audio ideals. Feel free to contact me if you are interested.

I hope to continue Mark's management style with the excellent writing staff of *Affordable\$\$Audio*, while adding my own flare here and there. So it is with a somewhat sad heart that I say goodbye to Mark Marcantonio, it truly has been a pleasure and a joy to work with him. I will be working to make sure all of the things that made this magazine so unique and amazing remain unchanged. I am very impressed with this month's lineup of reviews. Please sit back and enjoy the show, *Affordable\$\$Audio* will continue to bring you our unique and to me at least amazing version of what an audio magazine can be.

Neko Audio D100 Stereo Digital to Analog Converter

By Jake Montzingo

jakemontzingo@affordableaudio.org

Specifications

Inputs: optical and coaxial S/PDIF
 Outputs: balanced XLR to XLR, or unbalanced XLR to RCA
 Frequency Response: 20Hz - 20kHz (+0 -0.10dB); 3Hz - 22kHz (-3dB) @ 44.1kHz
 20Hz - 20kHz (+0 -0.05dB); 3Hz - 31kHz (-3dB) @ 96kHz
 THD+N: <0.020% @ 20Hz -0dBFS
 <0.005% typical -0dBFS
 16-bit and 24-bit, 44.1kHz - 192kHz audio.
 Optical and transformer isolated coaxial inputs.
 Dual PCM1794 chips in mono configuration.
 Passive transformer-based analog output stage.
 Tantalum capacitors, 0.1% output resistors.
 Gold plated input and output connectors.
 High quality steel enclosure.
 Toroidal power transformer in separate shielded compartment.
 Price: \$1295

Website: www.nekoaudio.com



The World of DAC

In an ideal world, the digital to analog converter that you have connected to your digital source would not matter. Since digital information can ideally be read as perfectly as it was written, all it takes is a little converter to read the information and turn the stream into something more than a protocol droid can understand. In fact, since some protocol droids are fluent in over six-million forms of communication, getting one might be the ideal DAC; but that is for a different article. However, we all know that nothing is perfect in this world, high-fidelity audio included. There are little things called jitter, distortion, etc, and all of these nuisances can make the read digital data not true to the source. This is one reason that we have literally a boat load of different DACs on the market, each one reading and interpreting that digital data a little differently. As this truly is a nuisance, it also make the sampling and use of digital audio equipment fun as you try different units and decide what subtleties and sound best fit you and your rig. Neko Audio now offers one of those pieces of equipment that is worth trying.

Black Beauty

As the Neko Audio D100 digital to analog converter slinked its way out of the shipping box, I knew I had something special. It all started as I pulled the white cotton sleeve off of the unit and the smooth, black finish gleamed in the sun. The unit was smaller than I expected, measuring in at 10.5" (W) x 2.5" (H) x 6.5" (D), and a respectable 5 lbs, 10oz. This size is not your standard 17" x 3" audio component, but I actually like the smaller size and slimmer body. It tells me that thought went into designing the entire DAC, not just sticking the necessary circuit board into a one-size fits all enclosure.

The front of the D100 features only a few items, but I felt that no others were necessary; and in fact more would detract from the use and look of this amazingly simple piece of audio equipment. With a two way selector knob front and center on the steel enclosure, the only other items are two blue LEDs; one in the upper left corner that is a power indicator and one centered to the right of the knob which is a usable signal lock indicator. Flip around the D100 to its back panel and this sexy little beast reveals a pair of L/R balanced outputs, one each digital coaxial and optical inputs that accept an S/PDIF signal, and an IEC power connector with power switch. All of the connectors are well spaced out for easy use and access.

Moving to the internals of the unit, the D100 boasts a Wolfson WM8804 digital transceiver which keeps the jitters in check, along with a pair of Burr-Brown PCM1794 chips operating in mono mode for what Neko Audio claim provide the "greatest dynamic range, highest signal-to-noise ratio, and complete channel separation". Toss in a completely passive output stage and you may have the recipe for a very low noise and high accuracy DAC. The D100 does not provide an XLR AES/EBU connection, but I would assume they were hedging their bets as it is the less used digital format for home audio.

Lately, one of trends in audio equipment has been integrated/preamp style DACs that have volume controls, accepts an analog signal or two, and provides input selecting; as highlighted in the April 2009 issue thanks to Lorin. This is not one of those units. However, as I tube guy, that is just fine with me as I like the ability to choose my own preamp instead of being limited to the functions in my DAC. What the D100 may or may-not lack in preamp type controls or connections, it makes up for ten fold in being what it was created for; a digital to analog converter.

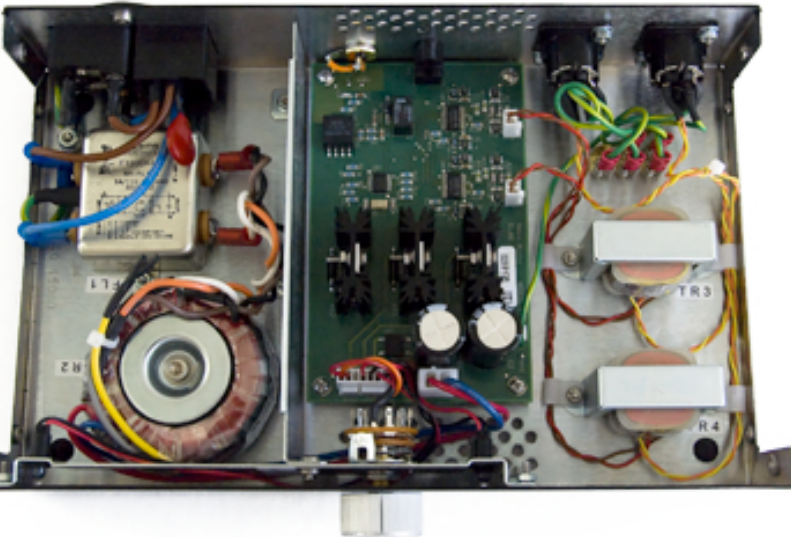
New School

Let's not mess around here; I'm a new school guy. I could have done this review off of a CD player, but since my PC is my favored rig right now, why not let the lossless audio files fly! After looking over the inputs on the rear panel, I decided to try both the digital coaxial and optical as the front panel has an input selector switch. Neko Audio enabled the D100 to be able to select the input on the fly which is a great feature if you are comparing inputs, cable types, or just feel too lazy to power cycle the unit every time.

Classically, I have preferred the digital coaxial connection to the optical as I feel it supplies a bit more musical sound, but since an optical connection has the ability to separate the two electronic devices, it can also have its benefits.

Upon connection and firing up the old personal computer, the little blue Lock LED came right on; I'm in business with no trouble at all! I selected one of my Chesky demo albums and clicked play to start the music streaming. Listening to

a mix of music and test sounds while flipping back and forth between to the two inputs, I noticed very little difference. I strained and might have heard a hint of organic on the coaxial side, but I truly would be happy listening to either connector. That is a big check in the plus column in my DAC score book for Neko Audio.



The Sound

As soon as I settled down to listen and played the first track off of Jack Johnson's *On and On*, my mouth dropped opened with the sound; WOW. The sound was so clear and defined. But I'm getting a head of myself. The DAC that I was previously using was the trusty AMC 8; and it has long been time for an upgrade; the DAC had been something that I was unfortunately overlooking in my upgrade-idis. My computer rig for this review was quiet over the top with the large CRS+ speakers mounted on my desktop and loads of electronics shoved under the desk. Those speak-

ers in a near-field set-up was not what the Polk manual calls ideal, but it allowed for a very overwhelming sound stage and the ability to hear every detail; just what I needed for my time with Neko Audio's D100.

For this session, I decided to try the DAC with two different amplifiers, my S5 Electronics K16LS tube amplifier that has unbalanced connections and a Carver PM1201 solid-state amplifier with balanced connections to provide two different perspectives. I also decided to leave the volume controls up to you PC and wired either amp directly to the DAC to remove any chance of preamp coloration. Even though the PC volume controls are a little more jumpy than that of a traditional preamp, this method will allow me to have the most pure sound from the D100.

I started with the heavily modified K16LS to see how that tubey sound jives with the D100. Since the K16LS only has unbalanced inputs, Neko Audio was very nice in supplying me with a custom pair of their XLR to RCA interconnects made of Belden 1800F cable which has an amazingly low capacitance of 13 PF/FT and were terminated with Canare F-10 RCA and Neutrik XLR connectors. Neko Audio also makes these cables in an XLR to XLR version with the same Neutrik connectors, and both cables start at a very reasonable \$22.00 each for three feet. Both kinds of cables are very high quality, very well terminated, and are the perfect match to the D100.

The combination of the digital converter with the analog tubes was a great match; a magical mix of warmth and detail. At the beginning of Jack Johnson's "Taylor" when he is playing the guitar solo, I can almost see his fingers sliding over the guitar strings while the wood of the guitar body radiates the muted sound of the notes. The sound is very organic and makes me feel like Jack is in the room with me. The same is true with the track "Holes to Heaven". His acoustic guitar is placed front and center in the sound stage and resonates through the entire room. When his voice comes in,

it is placed right over his guitar, right where I would expect it to be. The Neko Audio D100 DAC created music that matched my sonic memory in the best ways possible.

As I changed amps to the solid state Carver, I wondered what the differences would be between the two units. As I played through a few more songs off *On and On*, I realized that most of the differences I was hearing, I could attribute to the amplifier, not the DAC. The bass was much stronger in the recording with the Carver, but that attribute is a tube vs SS characteristic. I also noticed that the highs were a little more extended and less warm, but that would also be caused by the change in amplifiers. What did surprise me was the sound of the D100 combined with the Carver didn't sound any more digital than the sound of the D100 combined with the K16LS! A digital recording cannot have the clicks and pops of a record, but the D100 DAC does not impart a sterile, digital sound on the music played through it. It also does not over reach and try to sound like tube gear by adding artificial warmth or fuzz to the sound. It just does its job very well without listening fatigue or annoying your ears like a protocol droid. When I switched over to the Carver amplifier, the XLR interconnects from Neko Audio were very easily and solidly connected. One of the benefits of having a completely balanced audio rig is lower ground noise, but I'm not sure if I heard lower noise connecting the D100 to the solid state amp. Granted, the ground noise was very low, but just about as low as it was with the unbalanced amplifier. For me, this is not a bad thing and actually stands out in my mind as a very good design. If this DAC can sound equally good with both balanced or unbalanced connections, what can't it sound good doing?

The End?

I truly hope not. I would be completely satisfied having this high quality DAC in my system for years to come. When I usually think of the word digital in association with audio, listening fatigue come to mind; but not a hint of fatigue with this unit. The fit and finish of the DAC is impeccable, while the look of the unit is classic black and would match any sound system perfectly. The Neko Audio D100 is a very revealing, yet sonically delightful digital to analog converter that helps my system sing; the best DAC I've used to date.



Associated Equipment

Polk Audio CRS+ Speakers
K16LS Amplifier
Carver PM1201 Amplifier
Adcom ACE-515 Power Center
PS Audio Punch Power Cable
Canare 4S11 Speaker Cables
Monoprice Premium optical cable
Acoustic Research AP071 digital coaxial cable

Manufacture's Comments

Thank you for the review! As you noted, the D100 was designed for one and only one purpose which is audio digital-to-analog conversion. Everything about it is focused on that singular goal.

I'm not at all surprised you found the noise floor low with both balanced and unbalanced connections. The noise floor is actually below the measurement capabilities of the Audio Precision ATS-2, and the transformer-coupled output means the signal path is identical regardless of connection type. Along the same vein, THD+N measurements start rising below 60Hz but this is also a limitation of the ATS-2 as it measures 60Hz and harmonics even with the D100 unplugged.

Wesley Miaw

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 Kelso, Washington

McIntosh Model MR67 FM Stereophonic Tube Tuner

By Anthony Nicosia

anthonymicosia@affordableaudio.org

Specifications:

Manufactured from 1963-1968

Original retail price: \$299

Weight: twenty-four and one half pounds

Dimensions: 16 inches wide, 13 inches deep and 5 7/16 inches high without the cabinet.

Tubes: 6DS4, 12AT7, 6AB4, 6AU6(3),

6CS6, 6AV6, 6BL8(2), 6U8, 12AU7

Sensitivity: 2.5uV

Audio Frequency Response: 20-20kHz

Distortion: less than 0.5%

Image Rejection: 60 dB or greater

Capture Ratio: 1.7 dB

Stereo Separation: 30dB

Limiters: two stages

IF Amplifiers: four stages

Due to it being discontinued please check with McIntosh for the accuracy of the above specifications

Manufacturer:

McIntosh Laboratory Inc.

2 Chambers street

Binghamton, New York 13903-2699

Phone: 607-723-3512

Fax: 800-538-6576



A Look Into The Past

McIntosh has long been known for its tube audio gear. Collectors from all over the world, especially in Japan, have sought out their products. They have restored them and enjoy them to this very day. For a while here in America when McIntosh stopped making tube gear, in favor of the newer popular solid-state transistor designs of the 1970's, most of us abandoned these tube pieces only to later discover what we had been missing. By that time a lot of McIntosh equipment had been bought by audiophiles in other countries and the prices were driven upwards as the supply dwindled. Today McIntosh tube gear will bring considerable money even if it is in need of professional restoration. Fortunately for us there are cottage industries in the United States that do specialize in restoring our McIntosh heritage gear to almost new condition. So we can once again begin to enjoy their physical beauty as well as their musical qualities.

Having owned a few pieces of McIntosh gear during my long journey as an audiophile I must say I do love the equipment. My only regret about them was in the selling of some older pieces I had collected. One thing that stands out about most McIntosh gear whether old or new is the timeless beauty of the design that has helped many of their pieces to retain their value. It is not uncommon to pay more for an older McIntosh tube unit today than the original retail price over forty years ago. Of course today's dollar is worth less than yesterdays and that must also be taken into consideration. Nevertheless, McIntosh tube audio gear tends to bring top dollar just look at EBAY and other places to see for yourself. Today I still own a classic McIntosh MC275 Tube amplifier, in excellent condition for its age. Of course I also own the MR67 Tube Tuner that is up for a nostalgic review today.

Of course there are some drawbacks when buying vintage gear. First finding the older McIntosh tube gear from the year and for the model you want is not always easy. Also vintage gear uses yesterday's technology and could be missing some of today's bells and whistles. There is no warranty left and you are almost always buying them as-is or buyer beware. Almost all of the gear will show varying signs of wear and age as there will inevitably be scratches, dings and worn possible hard to find original parts. Then there is the problem with finding competent technicians to work on these vintage pieces at any price let alone a reasonable one. Luckily though there are good people out there to help restore these vintage pieces who are doing so for more love than money. Now if you look at all of this as being one of the fun parts of this hobby, as I do, then these problems actually can become a fun filled adventure. To me the joy of listening to great music and sharing it with others is fun in itself. However the joy of finding and assembling fine sounding audio gear is almost its equal. I like going to garage sales, looking in the back rooms of audio salons, talking to

people about older audio equipment that has been tucked away in attics, as well as I like discovering new exciting manufacturers that make good affordable modern audio today.

As for the MR67, it does not have a remote control so must get up to change the stations. Volume control though has the option of being run through your preamplifier. So if your preamplifier has a remote control you can then adjust the volume for the MR67 through it. The tubes are nothing too exotic unless of course you choose to stock it with rare brands of the many different tube types found in the MR67. As for a wood case it is optional and comes with or without the slant wooden legs that raise it up and off the self or floor. My particular MR67 has the optional case with the



slanted legs. Of course each cabinet must have the ventilation on top above the tubes which are designed to extend tube life by preventing overheating. There is also no digital display for the FM stations, the MR67 is an FM only tuner, and indicator meters are again not digital. Another feature not found on the MR67 is the automatic displaying of the song and performer so your on your own to figure that one out. Actually that is quite easy as all I do when I am stumped is to take a line or two from the song and type it in on the internet. Almost as if by magic the song lyrics and performer will appear so that I now have my answers. As for tracking stations you should preferably get an outdoor antenna or use a smaller indoor one like I do, depending on where you live in and the difficulty in securing radio signals in your area. I have not yet gotten around to an outdoor antenna and instead am using a Trek FM+ indoor an-

tenna that I bought at my local Radio Shack. It works just fine for most stations in my area but I intend to get that outdoor antenna some time this summer. Now that we have gotten into what it does not have I should tell you one more thing. What it does have that makes up for any of those small inconveniences is the tube magic that will transport your favorite radio station into something a little more special which can make for hours of uninterrupted listening pleasure. I enjoy listening to the radio and can do so for hours on end. There are times when a radio station will play a style of music I want to hear and I get to listen to countless musical selections some of which I own and many others I do not. Add this to the pleasure of the sound getting better as time goes on because the tubes are warming up and this can make for an incredibly enjoyable evening. A type of evening I love to indulge myself in after a hectic day at work.

If you never owned a McIntosh tube tuner you must see one light up in a darkened room at night and listen to that tube magic with your favorite song playing on the radio. For me a nice glass of wine, my wife beside me, listening to all the old favorites, would just about round out the evening. You could of course add to that some cheese or chocolate cake and really send me over the top. The MR67 was manufactured between 1963-1968 and it had a retail price of \$299. It came with twelve vacuum tubes tucked away behind a faceplate consisting of a glass panel on top and anodized gold on the lower half. On the front panel are knobs for tuning to the radio stations, volume control (which can be adjusted with the preamplifier or on the tuner itself), a mode selector (MPX Stereo or FM Mono), a power on/off knob and a muting out/in control knob. There are two buttons, on the far left and far right, for the Panloc system. This comes in handy if you have a wooden case and care to lock the tuner in so that it does not fall out when moving it about, which I find to be an excellent idea. Also on the front are three indicator meters. One is a multipath and signal strength indicator, the other a stereo indicator and the third a tuning indicator. Using all three helps determine if you have locked in the station as best you can and to indicate if it is broadcasting in stereo or mono. Looking around to the back you will notice a very simple yet functional layout. There you will find a muting adjustment knob that allows for adjusting the operation threshold of the ultra-sonic muting circuit. Next to that are two audio output jacks to connect the tuner to a preamplifier. Depending on the one you use you may either control the volume from the tuner knob itself on the front panel or go through the preamplifier and control volume there which I do so as to use the preamplifier's remote to adjust volume settings. On the rear panel is a terminal for connecting FM antennas to the MR67 either of the 300ohm or 75ohm variety. Of course there is also a fuse that helps protect the tuner circuits and finally an AC outlet to connect other equipment such as turntables and such if you wish. The fuse however will not protect any equipment

that is plugged in via this outlet, but rather only the tuner itself. Located just behind the front faceplate on top are two switches. One is for the Signal Strength, Multipath indicator function the other the Pilot Lamp Intensity switch which can be set to dim or bright for adjusting the front panel lights.

A Trio Of Tube Magic And Musical Selections Playing Throughout The Night

Since I am dealing with a nostalgic tube tuner I thought to not only pair it with some modern equipment such as the NAT Audio Plasma R tube preamplifier but also with my McIntosh MC275 tube amplifier. What a match, an all tube setup, except of course for the digital transport and DAC. The pairing of two McIntosh pieces from the same era (the 1960's) was actually a planned event when I bought the tuner. I am now also on the hunt for a vintage McIntosh pre-amplifier from the sixties to mate with both of them. Well enough talk it is now time to sit back and listen to some of my favorite radio stations playing the music I love. A nice song to start out with is "Isn't She Lovely" by Stevie Wonder. He has always been known to play the harmonica as well as the piano and does so ever so nicely in this song. Unlike with a cheaper Cd player the MR67 gave a nice fluid sound to the harmonica notes rather than sounding overly sharp or edgy. Stevie Wonder on vocals was very natural and the soundstage quite wide. The only time I heard Stevie Wonder in concert was a long time ago in New York City at Madison Square Garden, while nothing is quite like a live concert he did still sound good through the MR67. Next up was a Cat Stevens song entitled "Peace Train". There is something about tubes that make an acoustic guitar sound so nice. It is like you have put your ear to the instrument and could hear inside to the hollow part of the guitar were the music emanates from. The background vocals sounded perfectly layered and were nicely spread across a wide open soundstage giving a nice depth to the performers voice. On the next song the easily recognizable Seal is heard singing his famous song "Crazy". Here we find that the MR67 treats us to some very beautiful vocals that are both open and airy. As is commonly found in most tube equipment there was a nice sense of space and detailing evident in the singers voice which in this case complimented Seal's unique singing style.



Now onto a Glenn Frey song called "The One You Love". Tubes do horns right and the MR67 made no exception with this song and the opening ensuing saxophone performance. Here it got the timbre just so right that I felt I was in a nice intimate jazz club like I used to go to when I was younger and single. My wife is a big country western fan and actually has pulled me into her camp, although I still love my jazz and listen to it quite often when alone. Even she though liked this song as the saxophone filled the room with all the tube warmth the trio of the MR67 tuner, McIntosh MC275 amplifier and the NAT Audio preamplifier could muster. Glenn Frey's vocals were soft and gentle like the mood of the song as the drum beat kept the pace nice and slow. Moving on now to something a little more fast paced was the Eagles song "Hotel California". With this the MR67 had a slightly noticeable softening of the bass, possibly due to the triple compliment of tube gear previously mentioned, yet still was able to pull off the song nicely. The many guitar riffs were clear and detailed yet smooth. Soundstage was again large as life yet still cohesive sounding.

Finally moving onto a female vocal talent I next played Taylor Swifts "Love Story". The MR67 placed a nice sense of space and air between both her vocal talent and the instruments in her band to give a "live" sound to this performance. As I heard song after song things just got better as it normally does with tubes. After about an hour and a half I would say things were sounding so good I just could not get up to leave. Hearing music through a tuner is different than with a Cd player or turntable. My favorite is still the turntable but the tuner offers so much more than either medium as it offers more songs and a larger variety of music than my limited Cd and Vinyl collection can encompass. You can usually find almost anything on the radio depending on the day, time and station. So much to choose from and

nothing to buy. True you can not pick and choose what you want to hear when you want to hear it but there is so much good music over the airwaves that I can always find a station with music to make me happy.

Final Thoughts

The MR67 not only looked the part of a quality piece of equipment but the sound just keep getting better as the tubes warmed up. There was one night when I sat back, turned off the lights, had some California Cabernet and lit the fire-place as I listen and looked at this beautiful piece of vintage gear play throughout the night and thought I might never want to get up to go to sleep. Coupling the MR67 with the MC275 I felt momentarily transported back to a time when tubes were king and I was young which alone was worth it for me. So if you get a chance and find some older tube McIntosh tuners why not check them out. The nice thing about McIntosh gear is you can generally get your money

back, maybe even more, if you buy smart.

This way if you find the gear or the medium does not suit you reselling it should be fairly easy. There are many McIntosh tube tuner fanatics and also those just starting to get into the game out of curiosity, who are seeking to buy McIntosh tube equipment. I have seen most of the MR67 tuners priced from \$500-\$1100, I luckily bought mine for \$500. Looking back I now regret selling any of the older McIntosh gear whether tube or solid-state. As I sit here typing listening to the MR67 I must say this forty plus year old McIntosh tube tuner is a keeper for me in my system and one sure to be a conversation piece for all who come by to listen.



The Listening Environment:

The review room is eighteen feet eight inches long by thirteen feet wide. The loudspeakers and equipment are kept on the short wall. The cathedral ceiling starts at eight feet and slops

upwards to thirteen feet at its peak in the middle spanning across the short length of the room for the full thirteen feet height. The hardwood floor has a nine by six foot oriental rug lying down the long ways toward the system placed dead center in between, yet not under, the listener and the review equipment. The room has no doors but two openings. One is in front of the right Legacy Focus 20/20 loudspeakers which gives access to the hallway while the other is behind the listening position and opens to the formal dining area. The room is treated with two floor standing acoustical panels, one behind each speaker, and the audio equipment is located in a Cherry Synergy Twin S30 Salamander audio rack against and in the middle of the short wall. I have two power conditioners which plug into a PS Audio Power Port receptacle located behind the audio rack. There are also two Blue Circle Audio MKIII Power Line Pillows one on each of two outlets on the long walls next to and behind each loudspeaker. The Legacy's are located about six feet seven inches from the rear wall to their front panel. They are twenty one inches from the side walls to the middle of each loudspeakers. The Legacy's are twelve feet apart from each other to form a triangle with the listening position that is also angled at twelve feet from loudspeaker to listener. In the corner of each short wall behind the Legacy's are a pair of 1989 Klipsch Klipschorn loudspeakers that are sometimes used for reviews. If needed I would then reposition the two acoustical panels to slightly behind the listening position with one to the left and the other to the right.

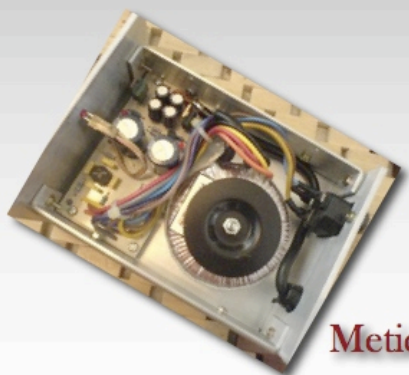
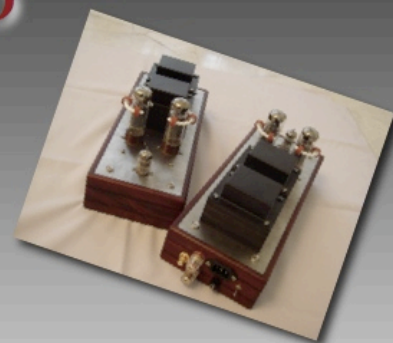
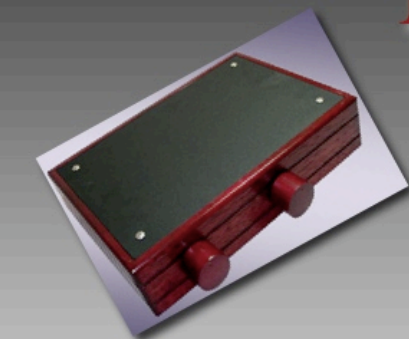
Review equipment:

- McIntosh MC275 tube amplifier
- NAT Audio Plasma R Preamplifier
- Samsung HD-841 Universal Cd player (used as a transport only)
- Monarchy Audio M33 DAC/Preamplifier (used as a DAC only)
- Legacy Focus 20/20 loudspeakers
- PS Audio UPC-200 Power Center
- Acoustic Revive RTP-2 power strip
- PS Audio Power Port Receptacle
- Blue Circle BC86 MKIII power line pillows (2)
- Kimber Kable Hero and Tonik interconnects
- Kimber Kable 4PR speaker cables and matching 4PR Jumpers
- Legacy Focus 20/20 loudspeakers
- Tek Line PC-8 Signature Power Cord two 6 foot lengths
- Mr-Cable Musician Power Cord one 9 foot length
- Cherry Synergy Twin S30 Salamander audio rack



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Beresford TC-7520 DAC/Preamp/Headamp**Lorin J. Elias**lorinelias@affordableaudio.org**Specifications:**

24-Bit/96-kHz DAC (Digital to Analog Converter)

Inputs:

USB 1.1/2.0 Port

Digital Coaxial Ports (RCA x2 - SPDIF)

Digital Optical Port (TOSLINK)

Outputs:

Line (Fixed) Analog RCA Output

Amp Analog RCA Output

Headphone Jack



Dimensions: 9.5" W x 4.5" D x 1.5" H

Weight: 2.5 lbs

Website: <http://www.beresford-dac.com/>

Price: \$249.00 (US delivery included)

There is an audiophile rule being broken here. We all know that the more functions you cram into a little box, the less impressive the performance from that box will become. Just look at the lowly AV receiver (combining preamp, amplifier, tuner, and sometimes a DAC) that has become ubiquitous, and so rarely satisfying. It is kind of like the minivan equivalent in the audiophile world. You can have the handling of a truck with the cargo capacity of a car...or was that supposed to be the other way around?

Every audiophile knows that you need lots of little boxes to make a good system, each one with its very own job. Get into the serious high-end stuff and each little box gets its very own little box too, at least in the case of outboard power supplies. But there are two revolutions going on here, both at the same time. Multi-functional boxes (even all-in ones) can actually perform very well, and provide cost effective, space-saving solutions, even for those of us who actually listen to our music. Just look at the recent success of such systems by Arcam and NAD.

The second revolution is the rebirth of the digital source. First, there was the CD. Next, came the widely failed high-res audio formats also packaged/delivered on the silver disc. Now that people are using a wide variety of digital sources for their music (CD player, DVD player, computer, Squeezebox, Sonos, etc.), a device that actually makes these devices sound like music becomes extremely valuable...even popular.

The DAC market is on fire right now. A few short years ago, these little boxes were widely seen as superfluous, even by the audiophile. Now, it is hard to find someone serious about listening who does not have (or at least has not seriously considered buying) an outboard DAC. The DACs that have caught the market's attention are often quite complicated devices though. Consider the widely popular Benchmark DAC1, that combines a DAC, headphone amp, and offers variable output to both XLR and RCA outputs, allowing it to be used as a preamp too. It is a three-in-one product, and widely popular one to boot.

Two issues ago, I presented a mini-shootout of some budget DACs that have similar features to the Benchmark (DAC, volume control, and in two cases, a headphone amp). The contestants were the CityPulse 7.2X, Musiland MD-10, and Zhalou 2.5. In most respects, I preferred the Musiland MD-10, and it has remained in my system since then.

Following the publication of our April issue with the DAC shootout, I received a note from one of our readers here at A\$\$A (thanks Dan) suggesting that I review the Beresford TC-7520 DAC/preamp/headamp, as it shares similar features and prices with the other contenders. Very shortly following an email to the USA distributor, my review sample arrived (thanks Jeff Tomerlin). My initial reaction; I was underwhelmed. This unit is really quite small, and I know better than to assess audio "by the pound", but I must confess, when I saw the "wall-wart" power supply, I muttered to myself "this thing does not even have a real power supply". The chassis won't exactly impress your friends or significant other in quite the same way as gear from a company like Jeff Rowland, but nor will it horrify those same people with the price tag. The Beresford DAC costs a paltry \$249 delivered! Besides, let's not spend too much time judging the product before actually listening to it.

Right out of the box, the sound was OK, but nothing to get terribly excited about. I placed it in my computer-fed system, consisting of a PC source with the coaxial digital output feeding the Beresford TC-7250, using the fixed RCA outputs to connect to a Rotel RA-980 integrated amplifier (100WPC) driving Jungson BD-2 speakers. The sound was reasonably clear and dynamic, but quite bright, with a pronounced midrange. Bass control was somewhat difficult to assess at first. There seemed to be plenty of bass energy there, but it was not particularly well controlled or defined in pitch or tone. Then I left the DAC on for a couple of weeks, where it busily decoded the signals from my computer, waiting for another critical listen. After this burn-in, things had improved quite a bit. The brightness was considerably attenuated, although not entirely gone. The midrange had recessed a bit, but was still quite forward. If anything improved markedly during burn-in, it was the bass control and bass definition. There was not any more bass, but what was there was better defined.

In an effort to test the Beresford a little more seriously, I swapped out the trusty Rotel and inserted my Kavent P1100 tube hybrid monoblocks (also 100 WPC), and connected them to the variable output of the Beresford. I was not expecting much from this configuration, but was seriously impressed with the result. Sure, the amplification was far superior from the Kavent monoblocks, but the little Beresford did a heck of a job as a preamp. The soundstage was huge, at least in width (soundstage depth was a little shallow). The bass was punchy but not boomy, and much of the



harshness (but not all of it) of the treble was gone. Even the ergonomics were good. When I initially saw the little black volume knob, I thought it would be a typical cheap, imprecise, and scratchy pot. These are quite common at this price point, and in devices like the Zhalou 2.5, the volume pot is a real weakness. Not so with the Beresford. It did a remarkably balanced and smooth job of volume attenuation, and “felt” quite good. In further contrast, the push-button digital volume control of the Musiland MD-10 is a real pain to use compared to the smooth analog knob on the Beresford.

The time had come for the critical test – to compare the Beresford in my larger reference system up against the similarly priced competitors that I had on hand – the Musiland MD-10 and the Zhalou 2.5 (I no longer have the CityPulse 7.2X). The DACs were fed by the coaxial output of a Logitech Duet Squeezebox, and the analog signal from the fixed outputs fed my Jungson JA-2 preamp connected to a Jungson WG-200 poweramp (200WPC) driving Usher Be-718 speakers. Bass was supplemented using two Paradigm PS-1000 subwoofers.

Comparing the \$249 Beresford TC-7520 to the \$250 Zhalou 2.5 DAC, there was no real competition. Sure, the Zhalou looked to be a good competitor, with a much more substantial chassis in on-board power supply, but sonically it could not compete with the Beresford. Next up was the \$399 Musiland MD-10. I have grown quite annoyed with my Musiland MD-10. I bought it for a second system, but it just keeps on murdering any DAC that comes into the house, no matter what the price. \$1000 AudioZone DAC1? Gone. \$600 Music Hall DAC 25.2? History. Would the plucky little Musiland finally meet its match?

Yes. Comparing the two was a bit tricky because the Musiland is considerably “hotter” from its RCA outputs, probably providing close to 3V RMS without any digital volume reduction, whereas the Beresford puts out 2V RMS. After some careful volume matching, some important differences emerge. Many dimensions favoured the Beresford, including soundstage width (but not depth), image focus, micro-dynamic contrasts, midrange presence, and bass control. The

treble was still a bit harsh through the Beresford, whereas the Musiland MD-10 presents a smoother, more refined (but perhaps less detailed) sound. In terms of ergonomics, there is no comparison. The digital display with menus and submenus on the Musiland MD-10 are pretty cool to play with, but if you just want to turn a system on and listen to music, the much simpler Beresford is certainly preferable. If you are considering using the device for double-duty as a preamp, the ergonomic advantage of the Beresford becomes even more important. Curiously, the Beresford really did not like being cold. Right after startup, the sound was much less engaging. Leave it on for a few hours, and the dynamics and soundstaging really improved. Don't tell any of my "green" friends, but once I discovered this, I left the unit on all the time.

There were two important tests of the Beresford TD-7250 that I could not complete to my satisfaction. The first was comparing the sound of the USB input to that of the coaxial inputs or the optical input. I generally avoid using USB connections, mostly because those ports tend to be much less "quiet" than coaxial or optical outputs, for technical reasons that are both too complicated and boring to detail here. To try to control the potential sonic damage, the Beresford actually has two distinct re-clocking circuits. If you are interested in relying heavily on USB output to a DAC, the Beresford is presumably less susceptible to some of the digital artifacts that plague USB connections. My main system is not close to a computer, and I stream music to it wirelessly using the Logitech Duet. I did try to compare the USB to the coaxial input in my second system (Rotel integrated, Jungson BD-2 speakers) and I could not hear a reliable difference. I still suspect that the coaxial input is better, but one needs a fairly high resolution system to enjoy the difference.

I would love to be able to offer you a competent review on the Beresford's performance as a headamp. Unfortunately I don't have a good set of headphones, because don't usually care to listen to music that way. The buzz on the headphone forums is actually really good, although some of the really serious headphone listeners have also taken to modification of Beresford products. Because the op-amps are socketed in the 7250 (like the 7150), they are easy to swap out, just as long as you don't mind voiding your warranty in the process. While there are some very enthusiastic success stories about these modifications in the forums, I think the unit is outstanding in its stock condition. If any of my home renovation projects have taught me anything, it is that sometimes things are best left alone.

This is an admirable product, with many virtues. On the practical side, it offers 4 digital inputs (including 2 RCA inputs), which is fantastic for people with multiple digital sources (such as a DVD player, cable box, DAB tuner, Airport Express...). The unit has two sets of RCA outputs, and depending on your configuration, you could even make use of both at the same time. In terms of sound quality, it is the best DAC I have heard under \$1000. Once into four-figure territory, you can choose a balanced DAC that offers XLR outputs, a lower noise floor, and better retrieval of detail. However, for \$249, this product is a very easy recommendation. The distributor even offers a 15-day trial period, so you don't have to take my word for it! Highly recommended.

Review Equipment:

Rotel RA-980
 PC Source
 Logitech Duet transport
 Neko D100 and Musiland MD-10 DACs
 Kimber Silver Streak and Z-squared AU/AU interconnects
 Jungson JA-2 preamp
 Jungson WG-200 power amp
 Xindak FP-01 power cord
 QED Genesis Silver Spiral speaker cables
 Paradigm PS-1000 v4 subwoofers (two)
 Usher Be-718 speakers
 Jungson BD-2 speakers





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Trends Audio PA-10 Hybrid Tube Headphone Amplifier

By Todd Arthur

toddarthur@affordableaudio.org

Specifications:

Vacuum Tube: 6DJ8/6922 series or 12AU7 series (exchangeable)
 Output Stage: MOSFET x 2
 Amplification Gain: x3 (for Audio CD/DAC IN) x20 (for Audio PC/iPod IN)
 Signal-to-Noise Ratio: (SNR) 92dB
 Power Output: 3.0 Watts per channel on 33 Ohm Headphone
 Frequency response: 15 Hz - 100 kHz -1db
 Input Impedance: 100k Ohms
 THD+Noise: 0.05% @ 10k ohm 0.15% @ 33 ohm
 Input: CD/DAC IN RCA (Left/Right) x 1 [3Vpp max.]
 PC/iPod IN RCA (Left/Right) x 1 [0.55Vpp max.]
 Output: Audio OUT RCA (Left/Right) x 1
 Headphone OUT (3.5mm) x 1
 Power Socket: (5.5mm/2.1mm) x 1
 Power Supply: DC 24V-26.5V (max.)
 Dimensions: (W) 3" x (H) 1.70" x (D) 4.50"
 Weight: 13.4 oz
 Website: <http://www.trendsaudio.com>
 Price: \$225



Images courtesy of www.obadimports.com

Having had a positive experience with the Trends Audio TA 10.1 amplifier, I was anxious to review the Trends Audio PA-10 Tube headphone amplifier when the opportunity presented itself. With a limited budget, building a respectable headphone system is the most economical way to enter the world of true high fidelity. Just add a Zune, an iPod, or a CD player, some quality headphones and you can assemble a nice sounding affordable audio system for just a few hundred dollars.

The Trends Audio PA-10 is a compact headphone amplifier/preamplifier selling via the internet for \$225.00. It is a hybrid design utilizing a single 6N11, 6922 or a 12AU7 input vacuum tube and four MOSFETS as the output drivers. The front faceplate has a 1/8 inch mini-headphone jack and a volume knob. The rear apron contains the power on/off switch, wall wart power connection jack, two pairs of RCA input jacks, and a single pair of RCA line output jacks so that the unit may be utilized as a preamplifier. The inputs are user selectable for low output sources such as an iPod or a PC sound card and a higher output device such as a CD player. Additionally the PA-10 has internal adjustment for tube selection via jumpers on the PC board and two adjustable potentiometers for tube bias adjustment. The unit comes with the bias set at the factory and only needs periodic adjustment for maintenance or when changing tube types. The nice thing about all Trends products is that they are compact, well constructed and ergonomically friendly.

Setup

I did all of my listening using either my Denon DCD 350 CD Player or my Zune 8Gig MP3 player as source components. For the cable connections I utilized either Discovery Plus Four Interconnects or a Radio Shack Mini jack to RCA connection cable. Additionally I evaluated the amplifiers via either my Audio Technica ATH-AD700 or Grado SR325i headphones.

During my initial listening sessions I played various types of music, classical, rock and jazz to allow the unit to break-in. The PA-10 always sounded musical even when it was fresh out of the box, it was quiet, detailed and coherent. The sound was as expected more tube like than the average headphone output provided with most audio components. For Instance my Denon DCD 350 has a built in headphone amplifier which was strident and grainy by comparison. If you have budget component with a built in headphone amplifier the Trends Audio PA-10 will provide a much better listening experience overall.

Once I had about 20 hours of break-in time on the PA-10, I started to do some critical listening. For a direct comparison I used my Musical Fidelity X-Can V3 tube headphone amplifier as a reference. The X-Can V3 which when new retailed for \$500.00 is a powerful, detailed and neutral sounding headphone amplifier. It is an all tube unit utilizing one 6922 vacuum tube per channel, high quality audio grade parts and is built with a high degree of fit and finish. The drawback to the X-Can is that it is much larger than the Trends Audio so it is not easily transported. The PA-10 makes

a much better travel companion because it can be carried safely in its 6"x 7"x 2-1/2" shipping box on a business trip or vacation to be used with an MP3 player.

The PA-10 had no trouble driving either the Grado or Audio Technica headphones; it would play quite loudly with either but not to the ear splitting levels of the X-Can V3.

Listening

One of my new favorites is the Melody Gardot CD *Worrisome Heart*, I played the title track and listened through both amplifiers using my Grado SR325i headphones. The subtle breathy voice of Gardot sounded smooth and refined through both. The texture of her voice and the accompanying instruments were conveyed intimately as one would expect. I was most impressed with the way the Trends Audio acquitted itself in comparison to the Musical Fidelity. Although the PA-10 lacked the ultimate resolution and refinement of the X-Can, the huge price differential between both units should certainly have to be taken into account when evaluating its overall performance. Additional differences that were apparent after the A - B comparisons were that the X-Can was more dynamic with substantially more headroom and richer bass response. The back grounds were substantially blacker allowing the finer details of the guitar work to become articulated. The Trends Audio glossed over some of this information and sounded a little thread bare. It was like comparing rich Swiss Chocolate to that of a Hershey Bar, both taste good but you have to pay extra to get the best.

Next I played, "Blueport" off of the Gerry Mulligan CD *"Gerry Mulligan and The Concert Jazz Band at the Village Vanguard"*. This fine live performance recorded in 1961 has a big band sound in an intimate setting. The multiple trombones, trumpets and saxophones will blow you away with their bold brass sound. Although both amplifiers did a fine job of rendering the performance, again the nod went to the Musical Fidelity for the fine reproduction of the musical transient attacks. There was an overall ease conveyed by the X-Can V3 that the PA-10 couldn't match. It lacked the sparkle and air up top and the more substantial bottom end of the X-Can. Overall and especially with the Grados SR325i headphones the performance was always more immediate and involving.

I switched headphones and used my Zune for the next listening session; all tracks were in MP3 format. I utilized my Audio Technica ATH AD700 headphones which have a more laid back presentation than the Grados, it is if you are seated five rows further back from a live performance than with the SR325i headphones. The ATH AD700s are however detailed, airy and very smooth. In comparison the Grados are more forward, have better bass response and better central image stability. I found the Audio Technicas were a better match for the PA-10 since they weren't as dynamic as the Grados, the lack of bass heft for example was less evident.



The first track I played was "Tears in Heaven" from the Eric Clapton CD *Clapton Chronicles the Best of Eric Clapton*. Clapton's emotional vocals and delicate performance on the acoustic guitar and Dobro were conveyed beautifully. Additionally the steel guitar work by Jaydee Maness was rendered in a similar manner. During my evaluation the Trends Audio PA-10 was a good match for use with the Zune, boosting the output enough so that a quality set of headphones could be utilized instead of the ubiquitous low quality earbuds that come standard with most MP3 players.

I decided next to set the wayback machine to 1975 and played "Stranglehold" off of the CD *The Best of Ted Nugent, Great Gonzos*. Let's face it Ted Nugent was never considered a subtle kind of guy. This track is a classic display of

1970's era stadium rock. All the classic elements are there, loud grinding guitar, thunderous bass, pounding drums, inane lyrics and gratuitous guitar solos! Got you in a strangle hold baby, you best get out of my way! The Trends Audio PA-10 allows you to elevate the listening experience to a level where you can appreciate Ted Nugent in a more intimate manner. The feedback and thumping bass played through the PA-10 will move in a way that the Zune in and of itself could never do! Ok, I know this is supposed to be an audiophile e-magazine, but you gotta have a little fun! Sometimes you need to crank up the tunes without waking the whole household.

Conclusion

There are several headphone amplifiers on the market in the \$225.00 range, but not many vacuum tube/solid state hybrid designs that I am aware of. The ability of the listener to tailor the sound of the PA-10 via tube rolling is also a nice option for those so inclined. Additionally you can use it as a stand alone line level preamplifier if you wish. I enjoyed using the Trends Audio PA-10 especially when listening to it in conjunction with my Zune MP3 player. Since I was able to take the PA-10 with me on several short trips I was able to improve my listening experience markedly. As with any audio product there are trade-offs but the cost to value ratio offered by Trends Audio in this case is quite good. No the PA-10 doesn't offer the fit and finish, dynamic response, or overall sound quality of the Musical Fidelity X-Can V3; but the Trends Audio PA-10 is a nice sounding audiophile product for those who want to build a quality headphone system on a budget.

Review equipment:

Audible Illusions Modulus 3A Preamplifier
 Cary AES Sixpac Mono Blocs
 Krell KAV 400xi Integrated Amplifier
 Krell KPE Phono Preamplifier
 Primare D30.2 CD Player
 VPI HW19 MKIV Turntable
 Rega RB 600 Tonearm
 Benz Ruby 2 MC Phono Cartridge
 Eficion Ficion F200 Monitors
 ProAc Tablette Reference Eight Signature Monitors
 Discovery Essence Interconnects
 Discovery Essential Speaker Cables
 Zebra ZC SP12SD Speaker Cables
 Zebra ZC SP14DBI Speaker Cables
 Acoustic Zen El Nino Power Cord
 Synergistic Research Master Coupler Power Cord
 Grant Fidelity PC 1.5 Power Cord



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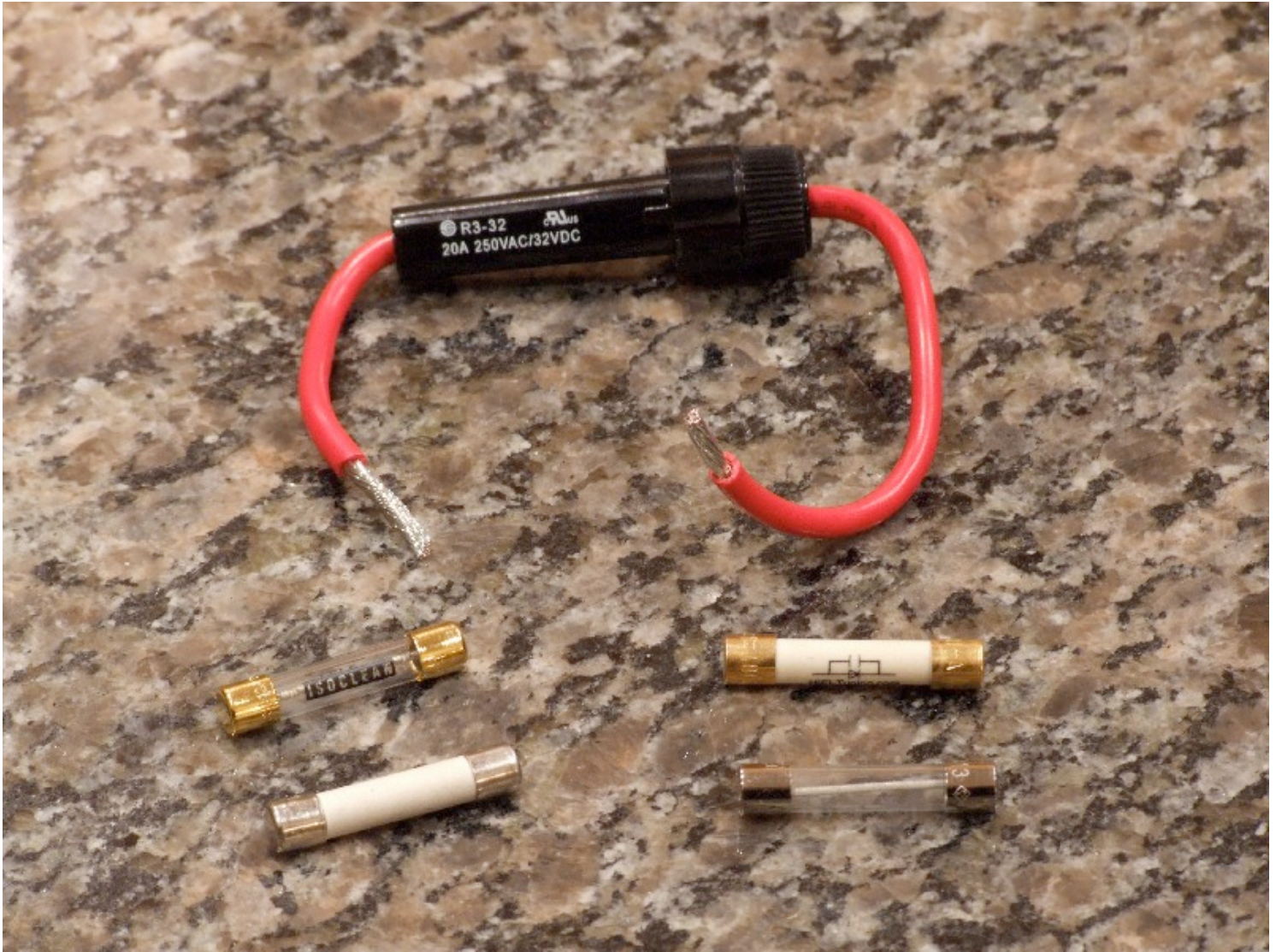
Studies On Residential Power Line Noise – Part 5: HiFi Tuning and Isoclean Audio Grade Fuses

By Raife Smith II

Introduction

I first tried some Isoclean audio grade fuses in January of 2008 when I replaced the 12 amp power line fuses in my Parasound Halo JC 1 monoblock amplifiers. These fuses are far more impressive now than then. The AC power infrastructure and vibration abatement improvements implemented in the fall of 2008 provided new levels of resolution that made the benefits of these fuses more apparent.

Figure 1. Isoclean fuse at top left and HiFi Tuning fuse at right. Their stock counterparts are below them.



In January of 2008, I did not have multiple dedicated AC circuits, multiple passive AC conditioners, an AC regenerator, and low noise power cords. I did not start AC infrastructure upgrades until August of 2008.

Now, switching back to the stock power amp fuses was the visual equivalent of going from a well lit room to dimming the lights a quarter way down. Tactile sensation and sound stage width and depth were also significantly reduced with the stock fuses.

Oscilloscope measurements revealed that these fuses are actually noise filtering/power conditioning devices in addi-

tion to protection devices. I speculate that the manufacturers of audio grade fuses do not describe them as power conditioning devices because:

1. They would have to describe the proprietary filtering mechanism in more detail than they care to.
2. Classifying the fuses as power conditioning devices would add another layer of regulatory approval (and more costs to the manufacturer).

Both the HiFi Tuning and Isoclean fuses have arrows on their cases which indicate that they should be oriented in the direction of current (energy) flow. Some people have scoffed and ridiculed the idea of "directional" AC fuses. Rather than something to ridicule, I saw the arrows as indications that there was something going on inside the "fuses" that required a specific orientation. Initially, my ears told me that the fuses sounded better in the direction of the arrows than against it. Noise spectrum measurements with an oscilloscope verified that the line noise was lower in the direction of the arrows than against it.

I sent the following email to HiFi Tuning's offices in Germany:

"I tried a 0.5 amp Hifi Tuning fuse in my Pass Labs Xono phono preamp and Pass Labs X0.2 line level preamp. The results were spectacular.

Listening tests confirmed that the best, most detailed, most open sound was achieved when the fuses were installed with the logo pointing in the direction of current flow.

I also took some noise spectrum measurements with an oscilloscope and I definitely saw more power line noise after the fuse when it was installed with the logo pointing against the current flow.

The resistance of the fuse measured the same in both directions.

What is it about the Hifi fuse's construction that makes it directional?"

I received this response the same day:

"Thanks for the Feedback,

***Please understand that a magician never tell anybody his tricks.....;-)
But be sure that we made the best fuses on the planet, nobody can make it better!!!***

Regards,

Bernd Ahne"

I sent the following email to Isoclean's offices in Hong Kong:

"What is the electrical theory behind the reason why the IsoClean fuses need to be installed in one direction for best sound quality?"

I received this reply:

***"Dear Sir,
The meaning is same as arrow direction in signal cables. Always want to keep same direction as indicated.
Hope you understand.
Regards
Isocleanpower"***

The only thing I understood from Isoclean's response was that they just wanted me to go away.

Fortunately, as a result of my power line noise reduction research, I had become aware of physicist Jack Bybee's pioneering research in materials-based noise reduction using special metal oxides and ceramics. His research was focused primarily on "quantum purifiers" which reduced noise at the quantum level rather than the gross level (RF, EMI).

Bybee filters are used in every aspect of high end audio gear, from speakers, to amps, to source components to turntable motors. My Teres Reference II turntable motor uses Bybee noise filters. It is apparent that these audio grade fuses employ Bybee or a similar materials-based noise reduction technology. The interested reader can find further information on this fascinating technology at the Bybee Technologies Website (www.bybeetech.com) and numerous other online resources. Just do a search on "Jack Bybee", "Bybee purifier", or "quantum purifier".

A lot of HiFi Tuning's website is in German, but I was able to glean enough information to tell that they are heavy into materials-based noise reduction products.

Better Understanding

At the time of my initial purchase of Isoclean audio grade fuses in January of 2008, I did not have a good understanding of what they were doing. I clearly heard improvements and I also heard the fuse's better performance in one direction than the other. It was only after I took noise spectrum measurements that I came to realize that these devices, rather than being mere "fuses", are actually noise gates and resolution enhancement devices. Accordingly, in an audio system with appropriate resolution capability, they provide benefits well in excess of their cost. I was initially stung by what I considered to be high prices for these "fuses" (\$25 to \$45). Now, in light of what they actually do, and my better understanding of noise reduction science, I realize they are one of the most effective low cost resolution enhancement tweaks you can buy. Please be aware that, as with any electrical noise reduction device, your results will vary according to your associated equipment's resolution capability and noise characteristics and your power line quality.

Listening Evaluation

The improvements that the Isoclean fuses brought to my power amps were very obvious. The improvements that the HiFi Tuning fuses brought to my line level and phono preamps were transformational, with respect to sound stage width and depth, dynamics, overall detail and tactile sensation, with the phono preamp benefiting more so than the line level preamp. The phono preamp has a much lower noise characteristic than the line level preamp. This makes noise reductions, even small ones, easier to discern.

Replacing the stock 0.5 amp fuse in my Pass Labs X0.2 preamp with a HiFi Tuning fuse resulted in a dramatic improvement in sound stage dimensions and quality as shown in figure 1.

Figure 2. Sound stage dimension changes after preamp fuse upgrade.

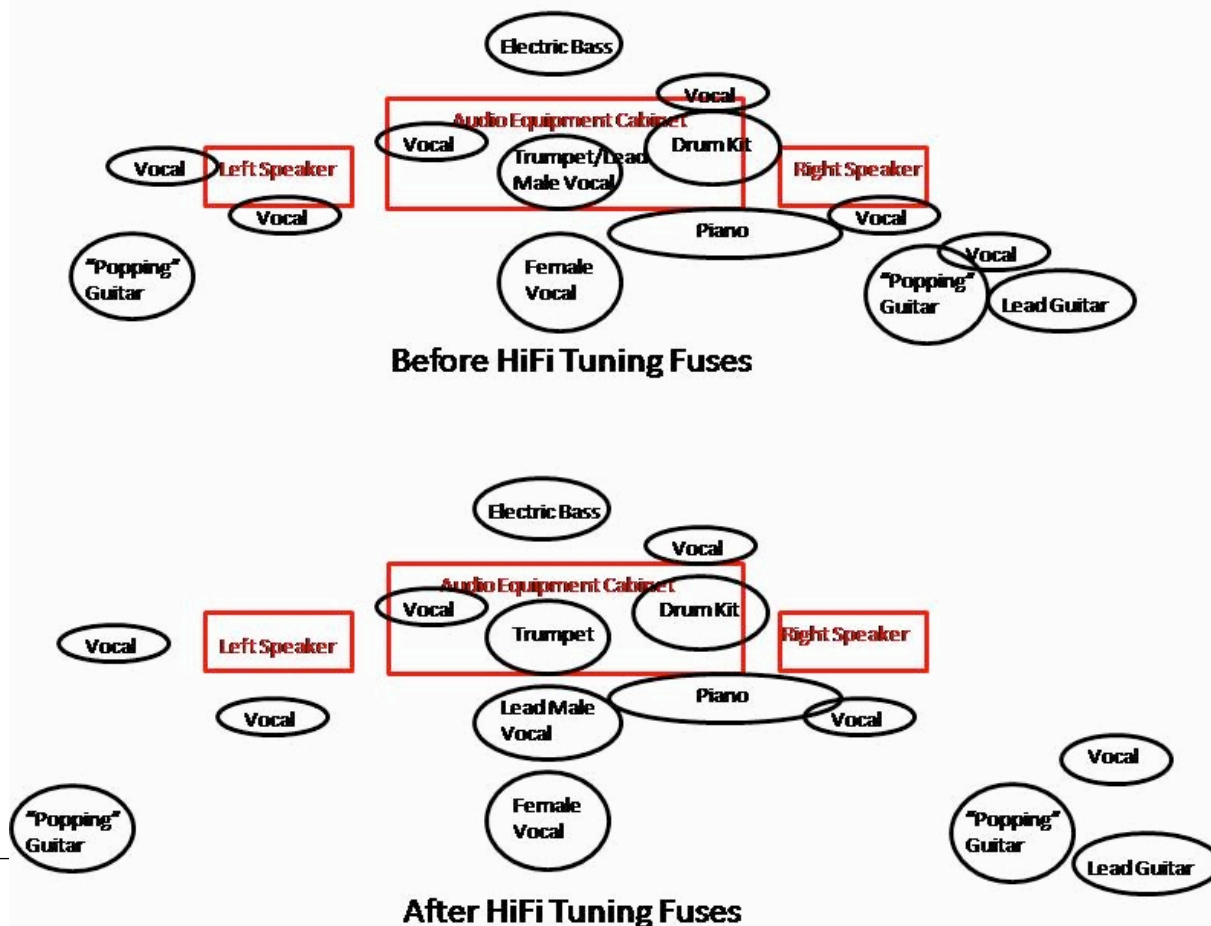


Figure 2 shows the changes in instrument and vocal locations before and after the HiFi Tuning fuse installation for the CD version of the song "Funkin' For Jamaica (NY)" by trumpeter Tom Browne (released in 1980).

"Funkin' For Jamaica (NY)" comprises a layered mix of well recorded and spatially stable audio images. The band members engage in dialog talking about events from their everyday lives in Jamaica, New York as well as comments about the physical attributes of the female vocalist and comments about trumpeter Tom Browne's personality and his dedication to music. The band member's voices are scattered across the sound stage.

Under everything is a constant, heavy, growling electric bass beat. On the left and right of the sound stage are identical constant "popping" effects which sound like they are made by a guitar, but it might have been a synthesizer since one is listed in the song's instrumentation list. There is an electric lead guitar to the far right which only plays accent notes at the end of the vocalist's phrases.

Before Installation Of HiFi Tuning Fuse

Before installation of the HiFi Tuning fuse in the Pass Labs X0.2 preamp, Tom's Browne's trumpet and the lead male vocalist shared the same space. The "popping" guitars, female vocalist and the lead electric guitar were 3 feet ahead of the speaker plane. There was a band member's voice coming from the space directly in front of each speaker.

After Installation Of HiFi Tuning Fuse

Everything is apparently louder, certainly clearer and definitely more dynamic.

The female vocalist, popping guitars and lead guitar came forward 2 feet for a total of five feet ahead of the speaker plane.

The lead male vocalist now had his own clearly defined space between the female vocalist and the trumpet.

The band member's voice that was on the left edge of the left speaker was pushed to the left by 1 foot.

The band member's voices in front of each speaker were repositioned a foot further forward.

The vocal/popping guitar/lead guitar grouping on the right were repositioned 2 feet further to the right.

The electric bass growl was faster, more detailed, and much heavier...it was now more reminiscent of an animal's growl than that of an electric instrument...and had more textures. Individual bass notes had more clearly defined trailing edges and decay.

The popping guitar's pops were heavier, more sharply defined and more percussive.

With the stock fuses, the band member's conversation had just a hint of recording space natural reverberation. It almost sounded like they were standing outside talking. With the new fuses, the reverberant envelope around each speaker and each instrument (particularly the popping guitars) was clearly defined. Subtle echoes off the rear and sides of the recording space were greatly enhanced.

Tom Browne's muted trumpet had more metallic "bite" with a stronger, thicker, clearer tone.

I now heard a slight raspy edge in the female vocalist's Chaka Khan-ish voice that I had never noticed before.

Piano notes were heavier, had more decay and more natural "sparkle".

The drum kit licks were faster, better defined and more natural sounding.

All of the above was facilitated by the addition of a \$40 "fuse". I say facilitated because the excellent improvements realized were due to a synergistic interaction of extensive power infrastructure tweaks rather than the effect of the HiFi Tuning fuse alone. For example, after listening with the X0.2's replacement fuse in place, I replaced the right power amp's Isoclean fuse with the stock ceramic fuse and heard the following:

1. The lead male vocalist went back to sharing the same space with the trumpet.
2. The female vocalist was repositioned at the edge of the speaker plane. Her raspy vocal edge was gone.

3. The reverberant characteristics of the images on the left of the sound stage were retained but the reverberant characteristics of the images on the right were greatly diminished or disappeared altogether.
4. The growling bass guitar lost a bit of speed and definition.
5. The right side of the sound stage sounded "darker" overall.
6. The right side of the sound stage contracted by 3 feet.
7. Overall tactile impact was diminished.

When listening to the "Take Five" track on the 180 gram pressing of Dave Brubeck's "Time Out" LP, replacing the Pass Labs Xono phono preamp's 0.5 amp stock fuse with a HiFi Tuning fuse resulted in the following improvements:

1. More subtle rumbling overtones on drums and acoustic bass.
2. Paul Desmond's alto saxophone shifted 1 foot to the right and 1 foot forward.
3. Saxophone notes had a more airy, reedy tone quality.
4. Piano notes had more weight and decay.
5. More bass slam.
6. Much sharper transients and more liquidity on rapid drum licks.
7. Much lower noise floor as evidenced by apparently louder sound level.

Replacing the JC 1 power amplifier's 1amp stock wire filament rail fuses resulted in a further widening of the sound stage by two feet, a further lowering of the noise floor, and a small increase in detail and image weight.

In every case, the audio grade fuses sounded better than the stock fuses **even when they were oriented the wrong way.**

When I replaced the Cary CD 306 Professional Version SACD player (\$8,000) with my Adcom GCD-750 CD player (\$1,500), I heard the following changes:

1. Significant loss of tactile bass.
2. Bass growls were blurred. Rather than electric bass notes with the throaty, well defined rumble of a tiger's growl, the electric bass notes were now more similar to stomach rumblings.
3. Overall detail was diminished.
4. Sound stage depth and width significantly shrank (by 3 feet all around).
5. Bass seemed slower.

Now, I don't want to give the impression that the sound became "bad" when the Adcom replaced the Cary. It didn't. It was just less good by comparison, but still very, very, good.

Quantitative Analysis

A total of 16 fuses (8 stock fuses and 8 audio grade replacements) were evaluated: a 12 Amp power line and two 1 amp rail fuses in each of the JC 1 power amplifiers and 0.5 amp power line fuses in the Pass Labs X0.2 and Xono preamps. The differences seen in noise content between the stock and audio grade fuses were consistent.

The stock fuses are the slow blow type. Isoclean only makes slow blow fuses. HiFi Tuning makes both slow blow and fast blow fuses and offers a wider variety of current ratings than Isoclean.

The oscilloscope's Fast Fourier Transform noise spectrum plots in figures 2-6 follow the power signal as it comes from the PS Audio Soloist SE in-wall conditioner all the way to its exit from the JC 1's power line fuse. Both the stock ceramic fuses and the Isoclean fuses were compared.

The y-axis is the magnitude in dB and the x-axis is the frequency in Hertz. FFT measurements were taken with a Tektronix TDS 2012 digital oscilloscope. Starting at the y-axis and going from left to right the five large red spikes are: the DC component directly on the y-axis, the next and largest spike is the 60 Hz power signal, next is the 3rd harmonic at 180 Hz, next is the 5th harmonic at 300 Hz, last is the 7th harmonic at 420 Hz.

The 1-1/4" x 1/4" fuses were placed in a Radio Shack 20 amp in-line fuse holder with 12 gauge stranded wire leads (part #270-1217). One fuse holder lead was plugged into the end of the power cable and the oscilloscope probe was connected to the other fuse holder lead. Alligator clip leads, rather than a fuse holder, were used with the smaller 5mm x 20mm JC 1 rail fuses.

The differences in the plots are more difficult to discern in a static medium such as a magazine page. It was much easier to see the differences when I stepped through the plots with graphics software.

Figure 3. FFT of power signal from PS Audio Soloist in-wall passive power conditioner.

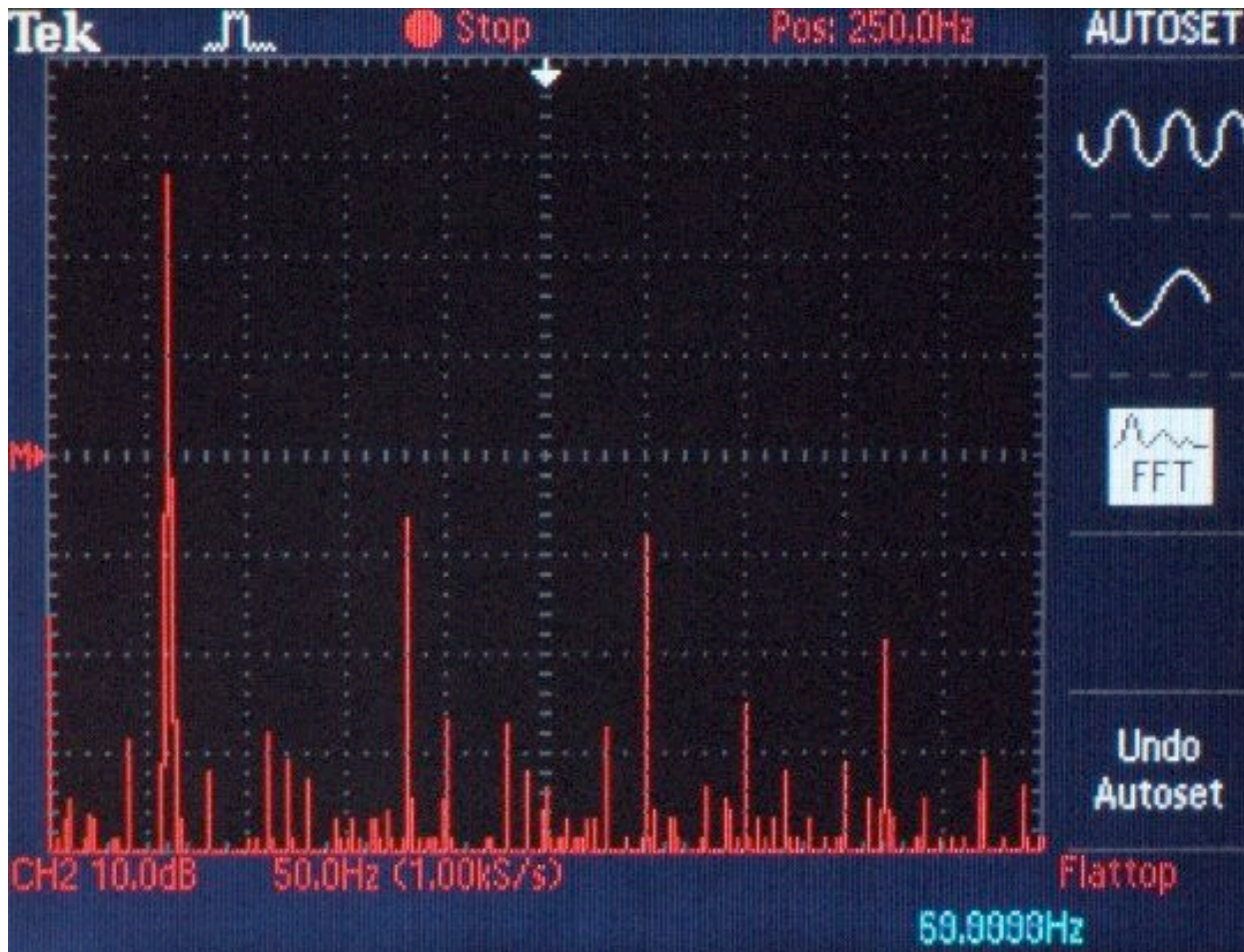
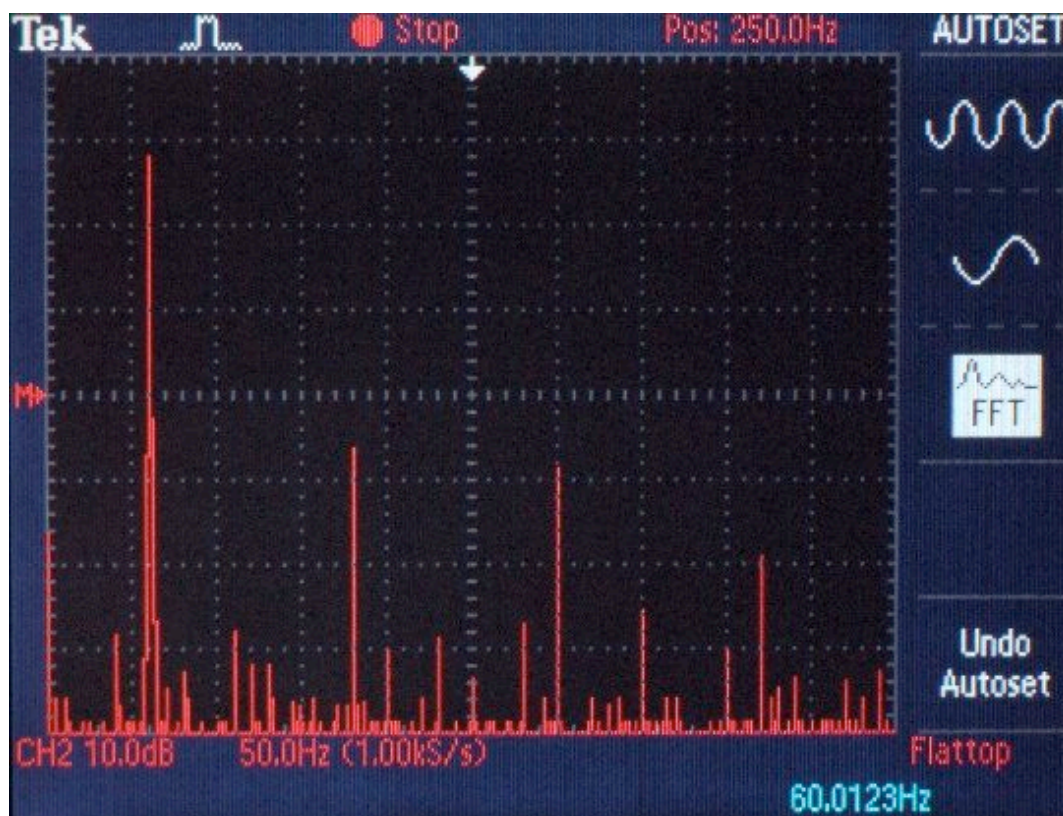
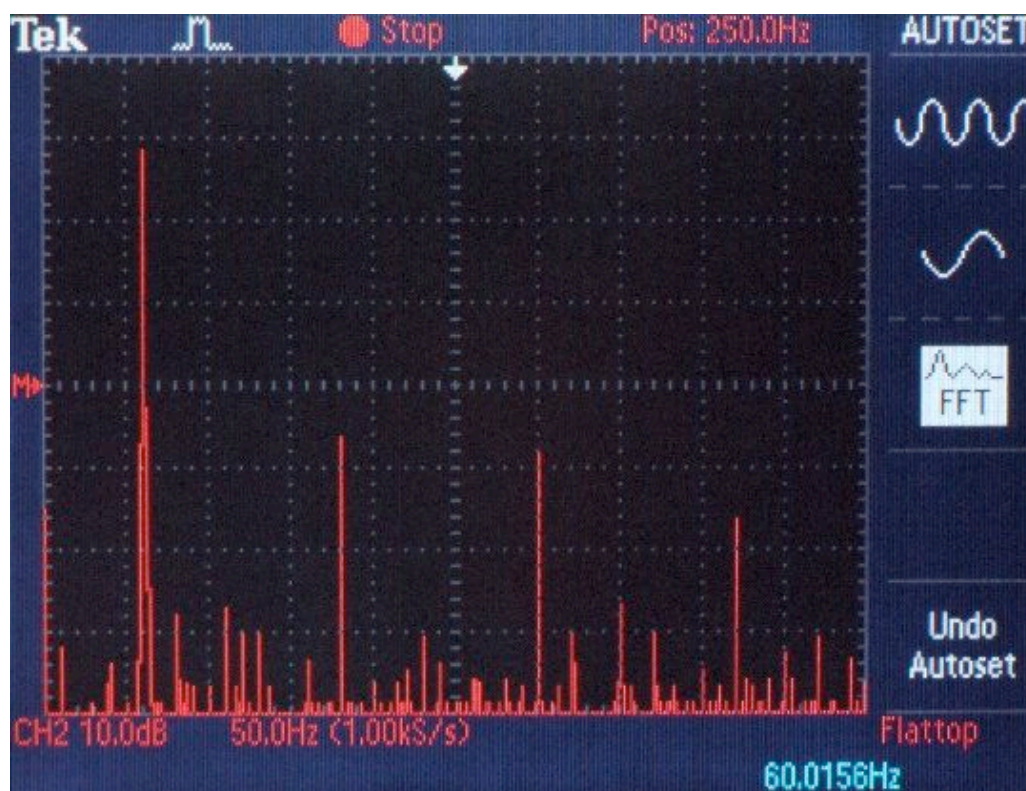


Figure 4. FFT of power signal from PS Audio xStream Premier SC power cord.



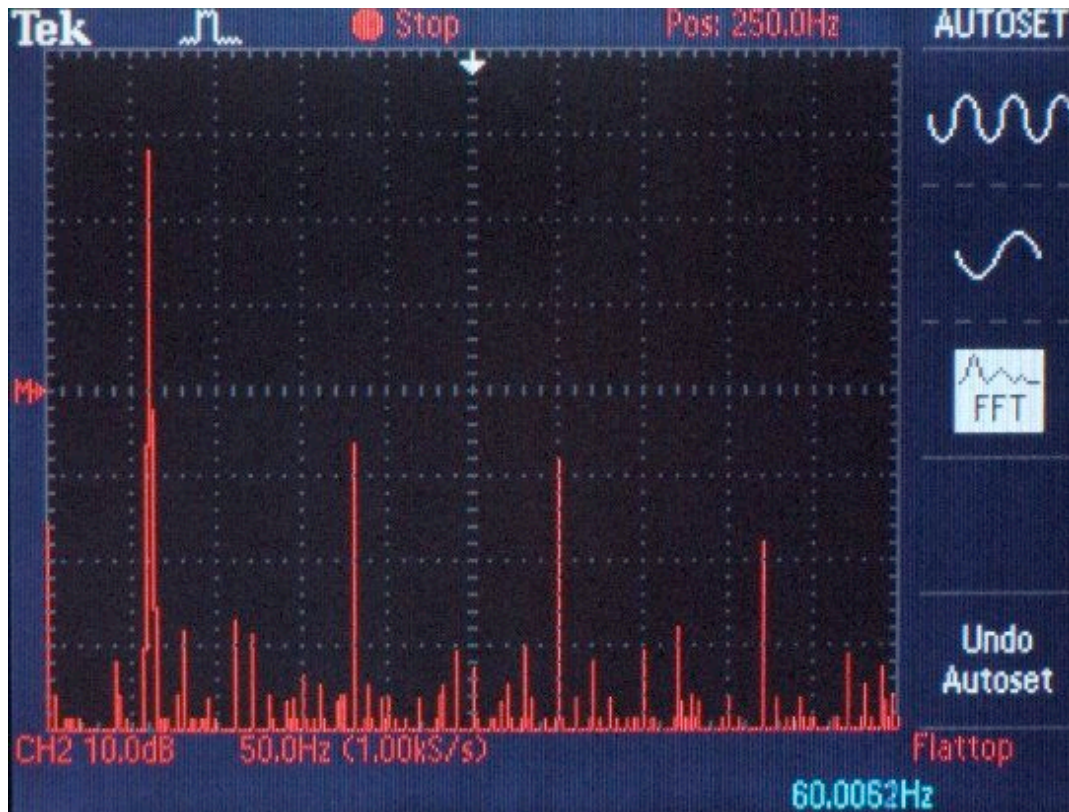
The power signal FFT plot after the Premier power cord displays an overall flatter noise spectrum with slightly less amplitude in the 5th and 7th harmonic.

Figure 5. FFT of power signal from JC 1 power amp's stock Bussman MDA ceramic power line fuse.



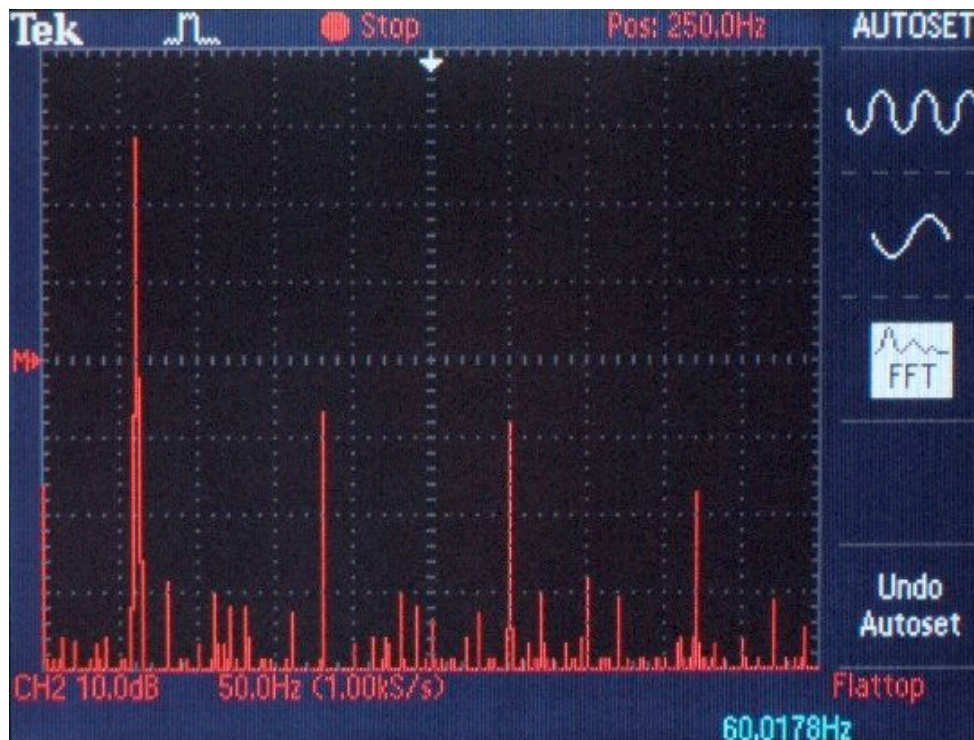
The power signal FFT plot from the JC 1's stock Bussman MDA ceramic power line fuse showed an increase in overall line noise, particularly at the 5th and 7th harmonic.

Figure 6. FFT of power signal from Isoclean fuse with fuse oriented against current flow.



Inserting the Isoclean audio grade fuse in the reverse direction showed similar noise characteristics to the MDA ceramic fuse.

Figure 7. FFT of power signal from Isoclean fuse with fuse oriented with current flow.



Inserting the Isoclean fuse in the forward direction resulted in a further lowering of line noise amplitude and density over that provided by the Premier power cord.

Figures 8-10 show the FFT plots for the stock X0.2 preamp fuse and its HiFi Tuning replacement fuse.

Figure 8. FFT of power signal from Littlefuse 313 fuse used in Pass Labs X0.2preamp.

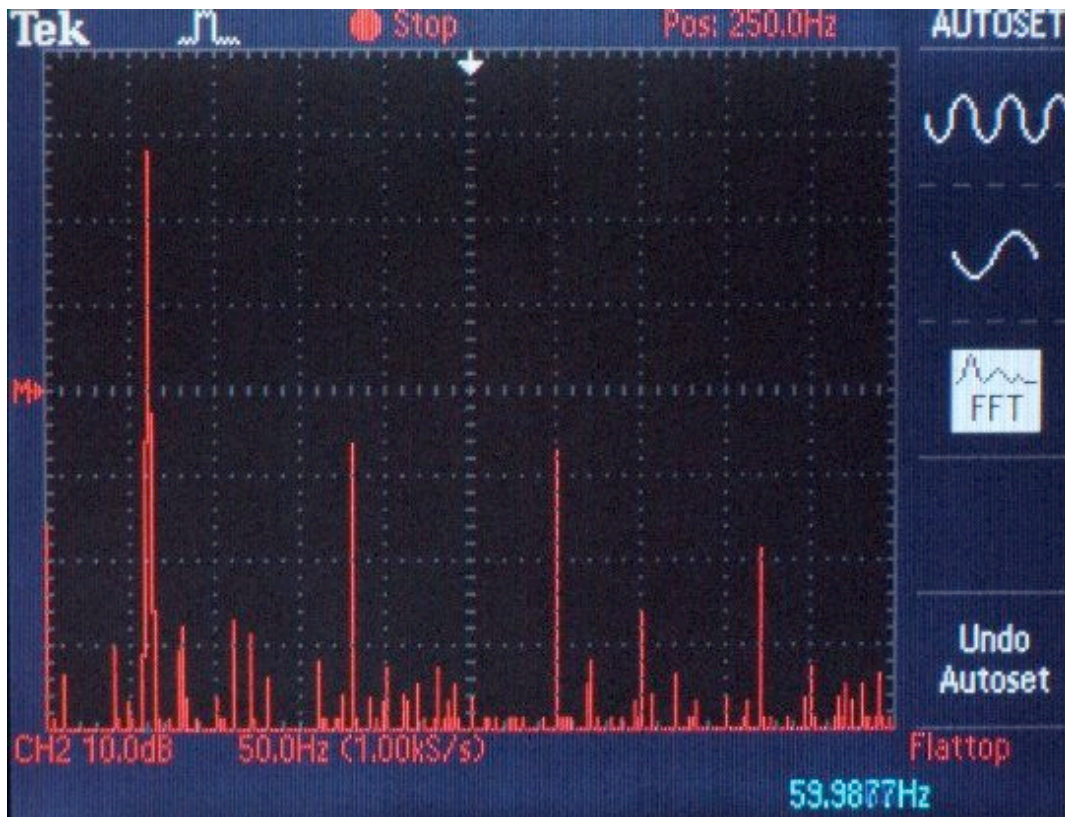
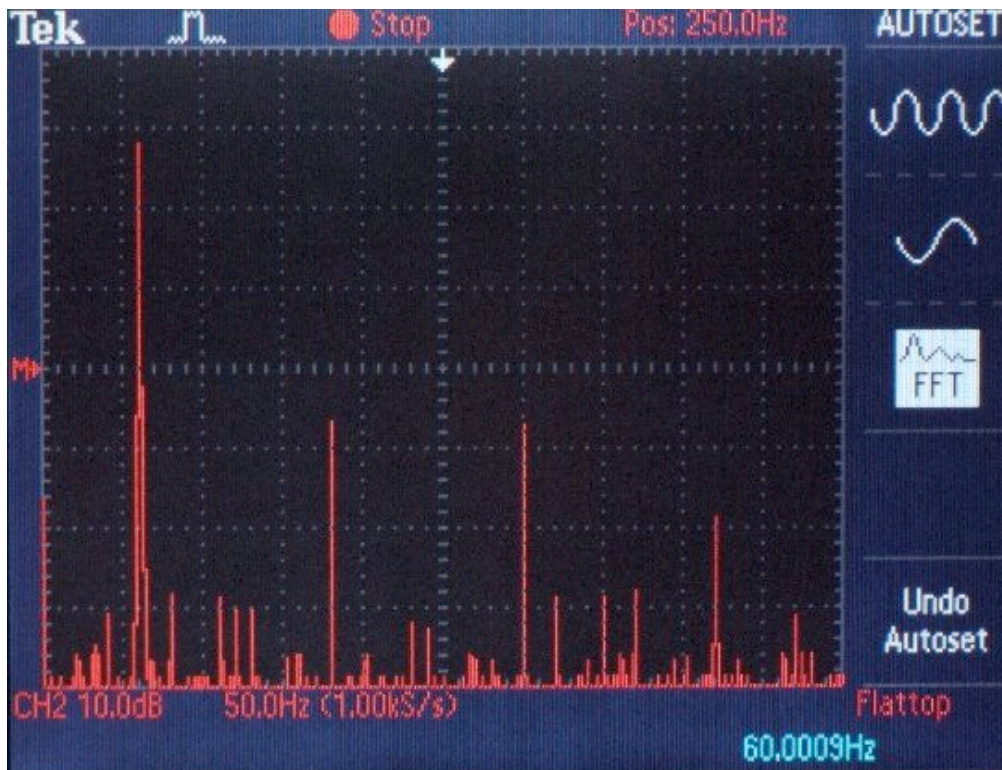
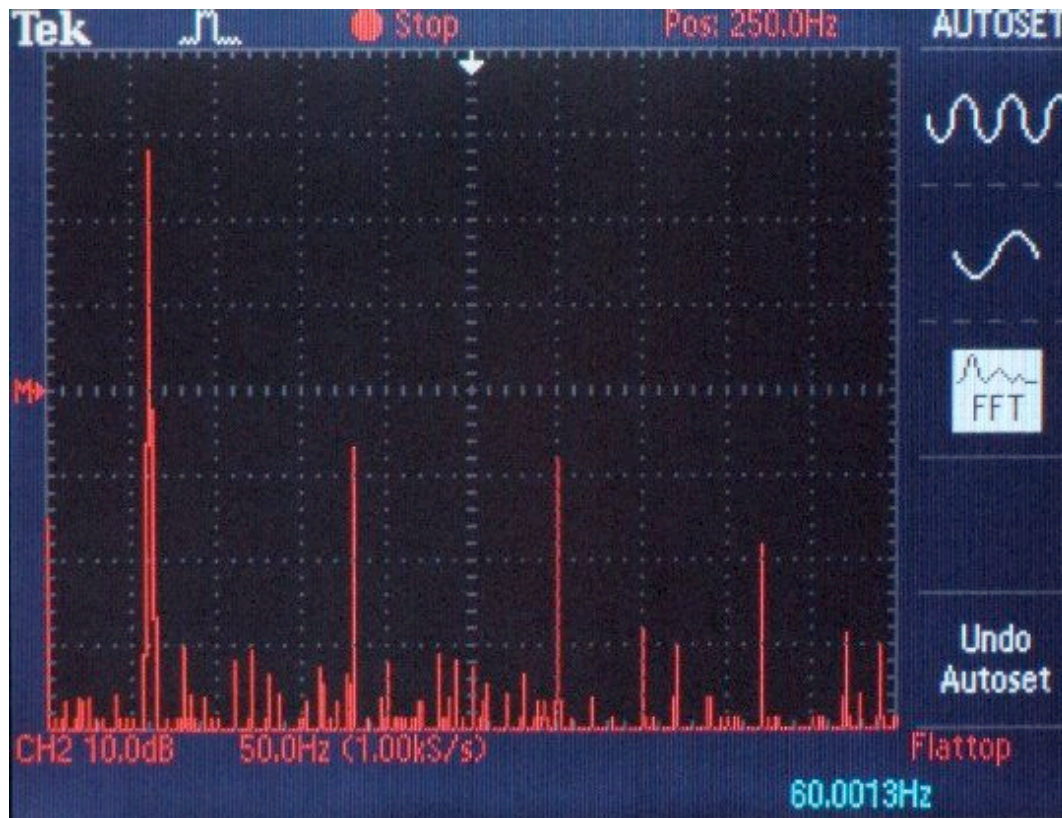


Figure 9. FFT of power signal from from HiFi Tuning fuse oriented against current flow.



The HiFi Tuning fuse in the reverse direction displayed similar noise characteristics to the stock fuse.

Figure 10. FFT of power signal from HiFi Tuning fuse with fuse oriented with current flow.



Orienting the HiFi Tuning fuse in the direction of current flow resulted in a significant reduction in noise amplitude.

In every report I have read where Isoclean and HiFi Tuning fuses were compared, the Isoclean fuses came out on top. I did not compare Isoclean and HiFi Tuning fuses in the same component. I would not have ordered the HiFi Tuning fuses were it not for the fact that Isoclean does not make a 0.5 amp 1-1/4"x1/4" fuse. Comparing figures 6 and 9, the Isoclean and HiFi Tuning fuses have comparable noise amplitudes but the Isoclean fuse has overall lower noise density.

Figures 8-10 showed the FFT plots for the stock X0.2 preamp fuse and its HiFi Tuning replacement fuse connected to the end of a Premier SC power cord which was connected to a Soloist in-wall power conditioner. Figures 11-14 show the FFT plots for the stock X0.2 preamp fuse and its HiFi Tuning replacement fuse connected to the end of a Premier SC power cord which was connected to a Power Plant Premier (PPP) AC regenerator. The spectacular improvements I heard after installing the HiFi tuning fuses in the X0.2 preamp and Xono phone preamps were attributable in part to the already exemplary low noise environment provided by the PPP. For a brief instant in time, I considered taking the PPP out of the power chain in order to hear just how much of a difference it was making. In the end, I just wasn't brave enough to do that. Besides, I wasn't going to listen to my preamps without the PPP, so why bother?

Figure 11. Power signal coming from the PPP through a Premier SC power cord. Note the dramatic reduction in harmonic and other noise compared to that seen in figures 3-10.

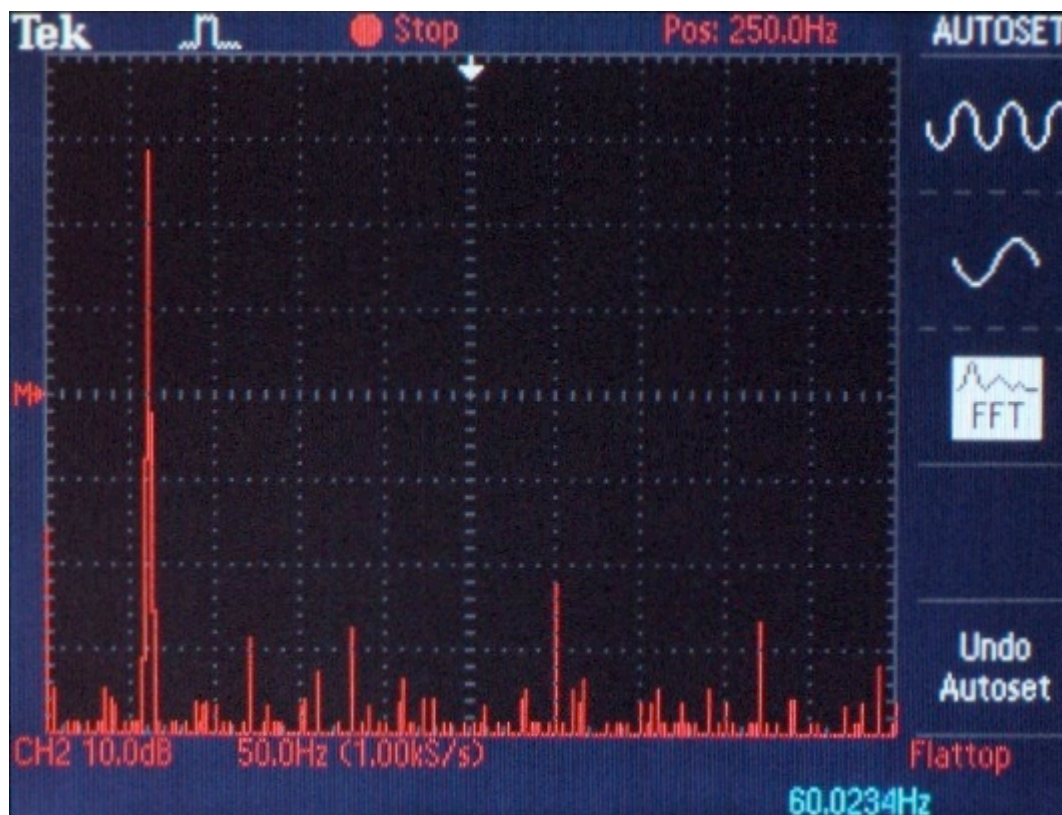


Figure 12. Power signal coming from the PPP/Premier SC power cord through the stock Littlefuse 313 fuse.

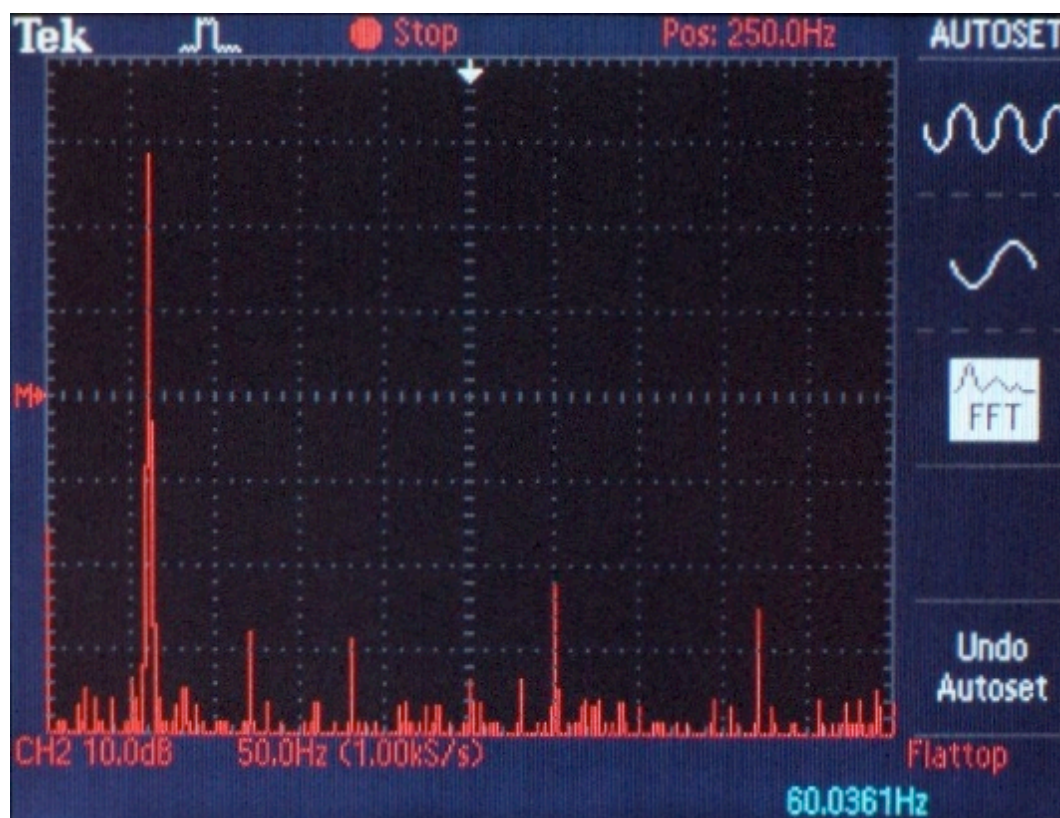


Figure 13. Power signal coming from the PPP/Premier SC power cord through the reversed HiFi Tuning fuse.

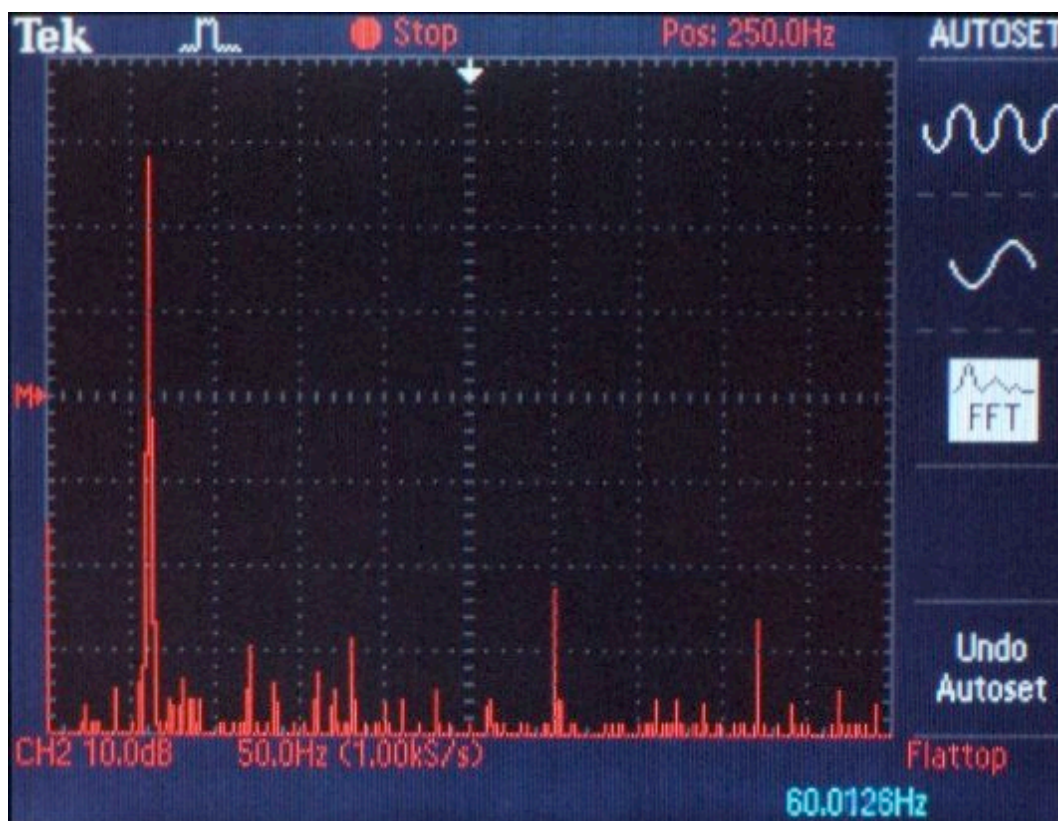


Figure 14. Power signal coming from the PPP/Premier SC power cord through the properly oriented HiFi Tuning fuse.

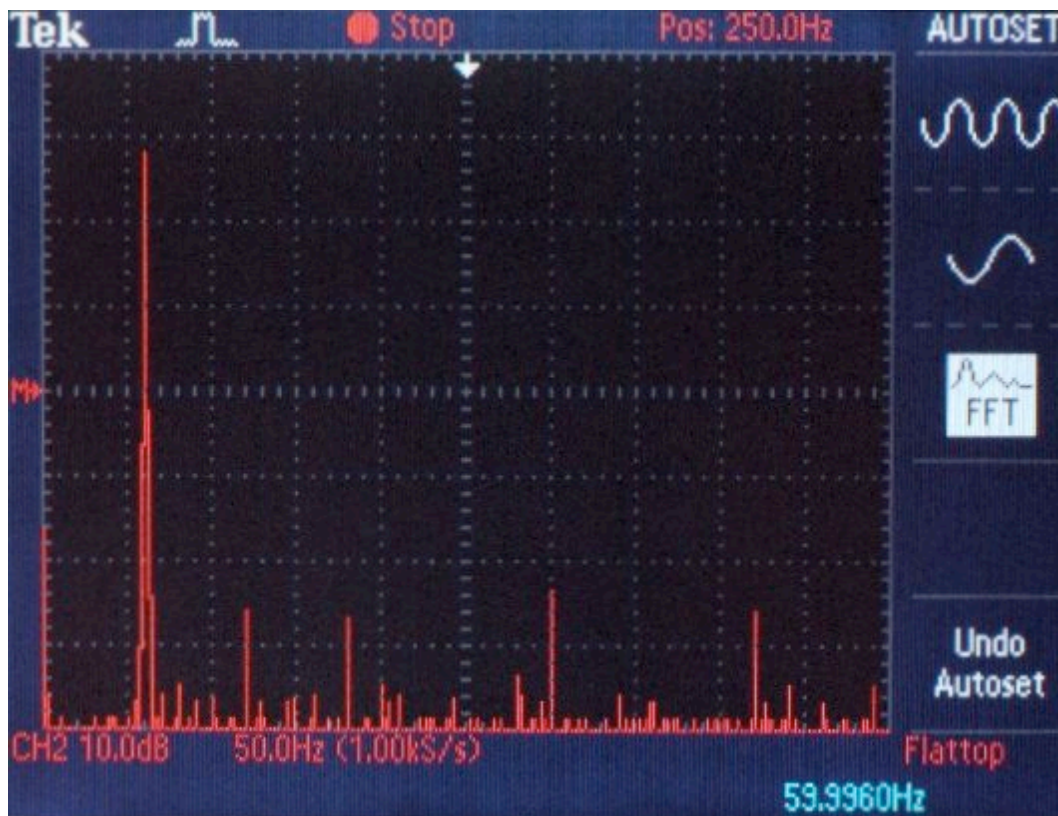


Figure 12 shows a significant increase in noise density around 60 Hz when the stock Littlefuse is in place. The noise scenario with the reversed HiFi Tuning fuse (figure 13) is a little better than that of the stock fuse. Comparing figures 11 and 14, it is seen that the noise with the properly oriented HiFi Tuning fuse is significantly reduced in overall amplitude and density. No wonder it made **Such Good Sound!**

Figure 15. HiFi Tuning fuses and packaging.



Figure 16. Isoclean fuses and packaging.



I asked Chris Brady of Teres Audio if he had experimented with audio grade fuses in his turntable power supplies. He replied that this is on his long list of things to try and that he looked forward to reading my results.

Some high end speaker manufacturers, as well as DIY'ers, use Bybee filters at their driver and/or binding post inputs. In the not too distant future, when I'm feeling brave enough to do further modifications to my speakers, I'll evaluate some Bybee purifiers in that application.

The only brands of audio grade fuses that I know of are Isoclean, HiFi Tuning, Furutech and PS Audio (Critical Link brand). Isoclean and HiFi Tuning manufacture their own fuses. PS Audio's fuses are made by a German company called AHP. Furutech's fuses

are made by a Swiss company whose name they don't care to divulge. There are English language audio press and consumer reviews of the Isoclean and HiFi Tuning fuses. I did not find any audio press reviews of the Critical Link fuses, but there are some consumer reviews on various forums. The Furutech fuses have been reviewed by a couple of Japanese audio magazines and there are some consumer reviews on various Internet forums. I'm sure that, in due time, someone will do a proper audio grade fuse "shootout" similar to the excellent audio grade capacitor shootouts we have enjoyed.

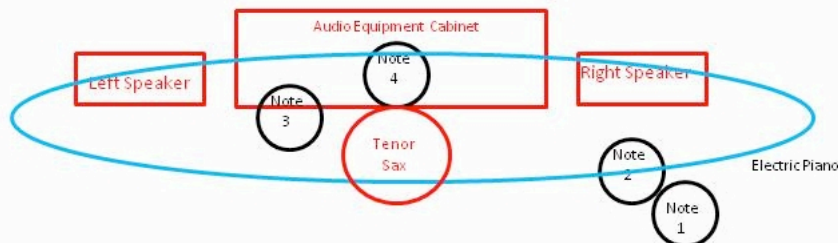
Fuse Replacements In Cary CD 306 SACD Professional Version

Cary Audio graciously allowed me to replace the power line fuses in my CD 306 Professional Version SACD player without voiding the warranty. The two stock fuses (2A/250V and 0.5A/250V) were replaced with HiFi Tuning Silver/Gold audio grade fuses. The correct orientation was determined by testing for continuity between the blades of the IEC socket and the fuse holder clips.

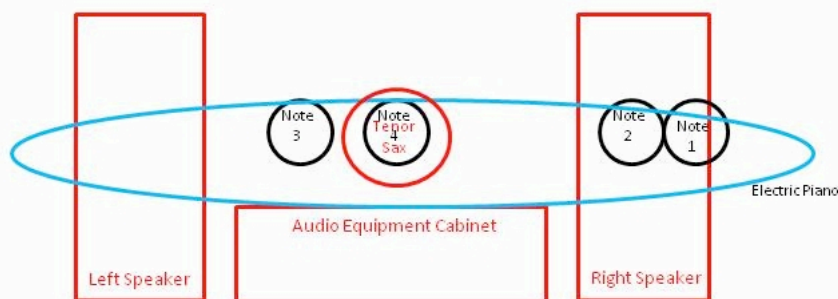
Once proper orientation was determined, I listened to the fuses oriented the wrong way then the right way. Listening with the fuses oriented wrong resulted in a contraction of sound stage depth and width. Even oriented the wrong way, the HiFi Tuning fuses still sounded better overall than the stock fuses. The noise floor was a little lower and overall detail was a little better.

When the fuses were oriented the right way, sound stage depth and width returned to normal. Although now, the noise floor was lower than with the fuses in the wrong orientation. Image weight and overall detail increased, particularly at the sides of the sound stage.

Figure 17 shows the sound stage charts for the song "Blue" from Boney James' "Backstreet" CD. The soundscape consists of only two instruments: an electric piano and a tenor saxophone. The piano is miked to stretch all the way across the sound stage (blue oval). The song starts off with four low-pitched, heavy sounding piano notes suspended in three-dimensional space. Boney James begins his sax solo after the four intro notes and is accompanied by the piano for the rest of the song. The saxophone is close miked, therefore key noise is clearly heard, particularly on rapid passages.



"Blue" Sound Stage From Above



"Blue" Sound Stage From Listening Position

After installing the HiFi tuning fuses, the following differences were heard:

1. The "clicks" of the saxophone keys were a bit clearer and louder.
2. The reverberant envelopes around electric piano and saxophone notes were a little more defined.
3. The sound of air rushing through the saxophone mouthpiece was louder and more clearly defined.
4. The piano's low notes were heavier sounding and provided more tactile sensation.
5. The piano notes at the sides of the sound stage were heavier and more clearly defined.
6. Sound level apparently a little louder due to lower noise floor.

Figure 17. Sound stage charts for Boney James' "Blue" ("Backstreet" CD).

Overall, the biggest improvement was in the SACD player's bass. It was heavier, more tactile, more articulate, and had more subtle shadings (rumble, growl). Although the improvements brought to the SACD player

were easily heard, they were not of the same degree as those heard with the fuse replacements in other components. Going from most to least, the degree of improvement by component was:

1. Phono preamp power line fuse.
2. Line level preamp power line fuse.
3. Power amp power line fuse.
4. Power amp rail fuses.
5. SACD power line fuses.

Fuse Replacement In Teres Audio Reference II Motor Power Supply

I had already taken measures to reduce the electrical and mechanical (vibration) noise in my turntable setup:

1. Upgraded the motor to the Teres Audio Reference II motor with optional Bybee power line noise filters.
2. PS Audio Power Plant Premier AC regenerator.
3. Black Diamond Racing Jumbo Pits vibration damping devices.
4. DIY Acid-Etched Holographic Mylar Belt.
5. Sonic Purity Concepts and Design "The Clamp" heavy duty reflex record clamp.

As noted during a previous study, I had reduced my turntable's stroboscopically measurable speed deviation to zero and had realized the following performance improvements:

1. The noise floor was lowered as evidenced by an apparent increase in sound level (the sound level meter showed the same absolute sound level).
2. More detail overall.
3. Heavier images.
4. More bass impact.
5. A little more depth in the sound stage.
6. An enhanced sense of 3-dimensionality.

I did not hold out much hope of hearing further improvements from the turntable motor after the power supply fuse was changed...but you never know until you try. The dealer I bought the fuses from offers a 14 day return, therefore I would only be on the hook for shipping charges if they didn't work out.

I heard an improvement when I replaced the power supply's stock power cord with a Signal Cable MagicPower cord. I did not hear a difference or improvement when I replaced the MagicPower cord (\$74-10AWG copper) with a much higher quality PS Audio xStream Premier SC power cord (\$1,394-7AWG silver/copper).

The following Tracks and LP's were used in this evaluation:

1. "The Lady In My Life", "Magic Touch" LP, Stanley Jordan.
2. "Angel", "Magic Touch" LP, Stanley Jordan.
3. "This Masquerade", "Breezin'" LP, George Benson.
4. "Ruby, Ruby, Ruby", "12" LP, Bob James.
5. "Midnight", "12" LP, Bob James.
6. "Angela (Theme From "Taxi")", "Touchdown" LP, Bob James.

I first listened to "The Lady In My Life" with the stock fuse, then popped in the HiFi Tuning fuse...then my ears began playing tricks on me. The tricks weren't subtle and they weren't big. The tricks were small, but appreciated:

1. Lowered noise floor as evidenced by apparently louder sound.
2. Heavier images, particularly bass images.
3. More detail overall.
4. Image placement and sound stage dimensions did not change. However, there was a greater sense of 3-dimensionality.
5. More sustain and decay on guitar and piano notes.
6. Enhanced subtle rumble from bass guitar.

On Bob James' "Midnight", shortly after the song begins, there is a percussion sound centered on the right speaker that sounds like a mixture of several tambourines and running water. With the HiFi Tuning fuse, the running water

sounds are more distinct from the tambourine sounds.

Stanley Jordan's and George Benson's guitars acquired more body and a little thicker, a little more liquid tone.

Further Study

Since audio grade fuses brought **Such Good Sound** to my two channel system, I began planning for another noise study, which will investigate the effects of audio grade fuses in the lower resolution, upper mid-fi equipment in my home theater system.

Figure 18. Denzel tried to hide his excitement after learning that audio grade fuses were coming to the SDA Shrine Theater.



Conclusion

Gross noise spectrum measurements such as the ones shown in this report provide some insight, but they cannot tell the whole story with respect to a device's noise characteristics. To get the total noise picture we would also need to look at noise at the molecular and atomic levels. Fortunately, such levels of measurement detail are not required because we can simply use our ears to tell if there is an improvement.

Generally, the better the electrical noise characteristics of the device, the better the results that will be heard. Loudspeakers are typically the noisiest components in the audio chain with their aggregate of thermal, vibrational, flicker, and shot noise. They usually benefit less from audio grade fuses. Low noise preamp's typically benefit the most, with power amp's coming next. In my system, the phono preamp benefited the most, the line level preamp was a close second, and the power amps were a distant third.

Audio grade fuses, being the tiny little devices they are, are better applied after more stringent noise reduction techniques have been applied. I think of them as "icing" rather than the "cake", with the cake being active and passive power conditioning devices.

Associated Equipment

01. Pass Laboratories X0.2 preamplifier.
02. Pass Laboratories Xono phono preamplifier.
03. Parasound Halo JC 1 monoblock amplifiers .
04. Teres Audio Model 255 turntable with acid etched Holographic Mylar turntable belt (DIY), Sonic Purity Concepts and Design Reflex Record Clamp, Graham Phantom B-44 tonearm, Ortofon MC Windfeld cartridge and Teres Audio Reference II turntable motor.
05. Cary Audio CD 306 Professional Version SACD player.
06. Polk Audio SDA SRS 1.2TL Speakers (Hot Rodded) .
07. Audioquest LeoPard yonearm cable.
08. Audioquest Sky XLR interconnects.
09. Audioquest Everest speaker cables.
10. Signal Cable MagicPower cord for turntable power supply.
11. PS Audio Premier SC power cords for amplifiers and SACD player.
12. PS Audio Statement SC power cord for Power Plant Premier.
13. PS Audio Power Plant Premier Power AC regenerator for source components.
14. PS Audio Soloist Premier SE in-wall power conditioners for power amplifiers and Power Plant Premier.
15. Three dedicated 20 amp AC circuits,
16. Black Diamond Racing Mk4 Cones, Mk4 Mini Black Holes and Jumbo Pits isolation devices for turntable and SACD player.
17. Salamander Designs Synergy Triple 30 audio credenza.

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.




 A black and silver Emotiva XPA-5 amplifier is shown from a three-quarter perspective. The front panel features the Emotiva logo, four blue indicator lights, and a volume knob. The top of the unit has a large, perforated ventilation grille. The background of the advertisement is dark blue with a subtle circular pattern.

EMOTIVA

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XPA-3
XPA-5

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200 - 250 watts per channel (8 ohms)

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How much power do you **WANT?**

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Music, HiFi and AV Discussion Forums


 A banner for Steve Hoffman Music Forums. It features a dark brown background with a CD on the left and a vinyl record on the right. The text "Steve Hoffman Music Forums" is written in a large, blue, stylized font with a white outline.

Steve Hoffman Music Forums

WIGWAM

Frank Zappa, *Hot Rats*
Classic Records RS 6356-200GRAM
33rpm Single Vinyl LP
By Peter D'Amario
peterdamario@affordableaudio.org

FRANK ZAPPA



HOT RATS

In many ways, Frank Zappa was an enigma. Somewhat clown-like in his personal presentation, this persona masked a kind of creative genius that—to the detriment of Zappa's fame and, probably, financial success—refused to bend to the strictures of popularity. He just wasn't a middle-of-the-road kind of guy...his music was usually challenging, not surprising from the man who, as a boy, chose the avant-garde classical composer Edgard Varèse as his favorite.

Entitling albums *Hot Rats* and *Weasels Ripped My Flesh* (among others) was not a move calculated to ensnare the masses. Nor was naming songs "Willie the Pimp" or "I Am the Slime". (At least you can't accuse Zappa of inconsistency: Naming your kids Dweezil, Moon Unit and so on evidenced a certain follow-through.) It is perhaps Zappa's unwillingness to compromise (he might call it "refusal to self-censor") that led to *Hot Rats* only charting at 173 in the US, but at 9 in the UK, following its October 1969 release on the Barking Pumpkin Records label.

Hot Rats was Zappa's second solo album, and his first following the dissolution of The Mothers of Invention, and it arrived in the midst of an incredibly fecund period of releases for Zappa...something like 13 albums over a five year period. The LP was notable in that Zappa used, for the first time, 16-track equipment...something that was cutting edge at the time. The layering of overdubs gives the album much of its sophisticated, multi-level acoustic feel. *Hot Rats* was composed, arranged and produced by Zappa. He was joined by a relatively tight group of accomplished musicians including, on one track, Jean-Luc Ponty.

You can call *Hot Rats* a rock album, but it isn't one in any traditional late-sixties early-seventies sense. There is a strong infusion of jazz as well as classical overtones that make the LP difficult to categorize. It wasn't quite like Zappa's earlier work. For one thing, with one exception all six cuts on the LP are instrumentals (and the sole vocal, on "Willie the Pimp", is by Captain Beefheart).

The album's lead-off cut, "Peaches en Regalia", is the LP's most accessible track, and a beautiful piece of music: A flowing piece of jazz fusion that ends all too soon, it is echoed—at least in style—by "Little Umbrellas", which leads off the second side of the album. "Peaches" is followed by the album's only vocal track, "Willie the Pimp" featuring Captain Beefheart in a blessedly attenuated vocal. The real stars of this song are Zappa's extended guitar solos (jams, really). Stylistically, I put this song in the mold of "The Gumbo Variations" which has also a "jamming" feel to it and benefits from multi-instrumentalist Ian Underwood's standout saxophone solo.

"Son of Mr. Green Genes" reverts to instrumentals, but with more of a rocking (rather than jazz) feel, featuring more lyrical guitar work. The LP winds up with the heavily produced "It Must Be a Camel", featuring the electric violin of Jean-Luc Ponty.

I was a little too young to have owned a sealed original pressing of this title, so I can't compare this Classic Records reissue to it. What I can say, however, is that the sound that leaps off this slab of vinyl is astonishing. At a number of points (particularly in "Peaches en Regalia" and "Willie the Pimp", I jumped out of my chair at the realism of instrumental entries. The sound is ideally balanced: Lower frequencies are tight, not muddy, and the higher frequencies are airy and unaccentuated. Bernie Grundman did an excellent job of mastering this LP and I'd be surprised if the OP sounded better.

The LP is pressed on Classic's 200g Quix SV-P vinyl, and is enclosed in a gatefold sleeve with full-color graphics (in turn enclosed in a Mylar outer sleeve). The vinyl is contained in a plastic-lined paper inner sleeve; there is also enclosed a printed paper inner sleeve with what may be some period graphics on one side. On the other are some thoughts from Bernie Grundman about the mastering process and, more specifically, about mastering this LP. There's also a word about Bernie Grundman from Gail, Zappa's widow: "Ears!" The vinyl itself features the period-correct

Barking Pumpkin label. My LP of Hot Rats was pressed the right way: Flat and flawless. No pops, ticks or other wayward surface noises. It's what you should expect: A premium product for a premium price.

This is sophisticated, structured music, very close to classical in its structure and complexity. Despite having been released 40 years ago, this music is still fresh; it is deservedly long lived. *Hot Rats* is well worth owning.

Villa-Lobos, *The Little Train of the Caipira*/Ginastera, *Ballet Suites*
London Symphony Orchestra, Sir Eugene Goossens, conductor
Classic Records/Everest SDBR 3041
33rpm Single Vinyl LP
By Peter D'Amario
peterdamario@affordableaudio.org

When I was a boy, my parents would often take us—in the Spring, of course—to Symphony Hall to hear Arthur Fiedler conduct the Boston Pops. We'd sit at a table, and the waitresses would bring us "Pops Punch", cheese and crackers, and other treats. The music that we would listen to was excellent stuff, and the spectacle was impressive.

Listening to this LP brought back fond memories of childhood evenings at the Pops. (I've only returned once since Arthur died; somehow it's never been the same for me.) The Little Train of the Caipira is exactly the sort of music that would have been played: Telling a story, straightforward, dynamically "out there" and—let's admit it—fun.

The Brazilian composer, Heitor Villa-Lobos, is probably the best known classical composer from Latin America. (A cynic might say that this is like being the tallest Munchkin in Munchkinland, though a listen to Villa Lobos' music should quiet any cynic.) Villa Lobos died in 1959.

Alberto Ginastera was an Argentine composer of classical music of Italian and Catalan background. He passed away in 1983, but not before one of the movements from his piano concerto was covered by Emerson, Lake & Palmer (*Tocata*, from Brain Salad Surgery). Reportedly, Ginastera both permitted ELP's use of his music and *approved* of the final result.

The Villa-Lobos piece (only about four and a half minutes long) begins slowly, almost ominously, with a slow rhythm played in the percussion (including a variety of "native" instruments) and bass strings while the violins play a high note above it all. You hear, almost feel, the train slowly beginning its journey, as the rhythm of the steam release—sometimes syncopated—gathers speed. After several measures, the theme emerges, as the percussion continues to chug along. The theme is embellished as the piece progresses, horns echoing the train's horn, drums signaling the bumps along the way. As the train approaches its destination, the entire orchestra slows down, bit by bit, until the remaining steam is let out and a strong chord ends the trip.

The first of the two Ginastera ballet suites, *Estancia*, asserts itself quickly following the almost cartoonish quality of the Villa-Lobos piece. While still relatively light classical, this sounds like much more serious music. *Estancia* is broken into four movements, *The Land Workers*, *Wheat Dance* (a gorgeous, almost impressionistic piece), *The Cattlemen* and the rollicking *Final Dance "Malambo"* with its crazed xylophone, frantic pace and thundering timpani in the finale.

The second suite, *Panambi*, begins by contrast very quietly with the first movement, *Moonlight on the Parana*, evoking a dark night in the Amazon. The composition is dreamy, almost Satie-like. Ginastera evokes insect and animal life in this movement. The contrasting second movement, *Invocation of the Powerful Spirits*, is played by brass and percussion only and has a raw, primitive feel, again contrasting with the serene third movement, *Lament of the Maidens*. The Maidens manage to pick themselves up by their bootstraps for the more lively *Rondo of the Maidens*, before Ginastera closes out with the explosive *Dance of the Warriors*.



This LP is a Classic Records reissue of the original Everest album, which was released in 1960. Bernie Grundman mastered this reissue, using the original 35mm tapes using Classic's tube cutting system. It's pressed on Classic's 200 gram "Super Vinyl Profile II" (not their newer translucent "Clarity Vinyl"). I have oft been astonished by the incredible quality of recordings made (especially on the Everest and RCA Living Stereo labels) in the 1950s and 1960s. They typically put to shame most "mass market" vinyl of the sort with which I grew up. This LP is an excellent example of how good the original engineering was. There is a sparkle to the sound of these pieces, matched with meaningful "oomph" on the bottom end, which engages the listener in the first few seconds and does not let up. Do you want delicacy and finesse? You've got it. Thundering crescendi? Yep, they're there too. Lest I'm being too subtle: The sonic quality of this reissue is absolutely superb.

Good sound is for naught if out of the sleeve comes a warped, scratched or otherwise damaged LP. Such is not the case here: This LP arrived flat, shiny and quiet (even on the "torture test" Sumiko cartridge which has an uncanny knack of picking up every imperfection in the groove).

Packaging is excellent as well: A heavy card stock jacket, beautifully printed, with a plastic-lined paper inner sleeve. And get this: It has an obi as well! The whole shebang is slipped into a Mylar outer sleeve. Like I said, excellent packaging that makes you feel like you're getting your \$33.00 worth.

It's easy to say that this LP contains "light" classical music that will appeal to the more casual listener. While this music isn't Wagner or Mahler, it is nonetheless music composed seriously, performed sensitively, and produced immaculately by Classic Records. It's well worth acquiring for the collection.

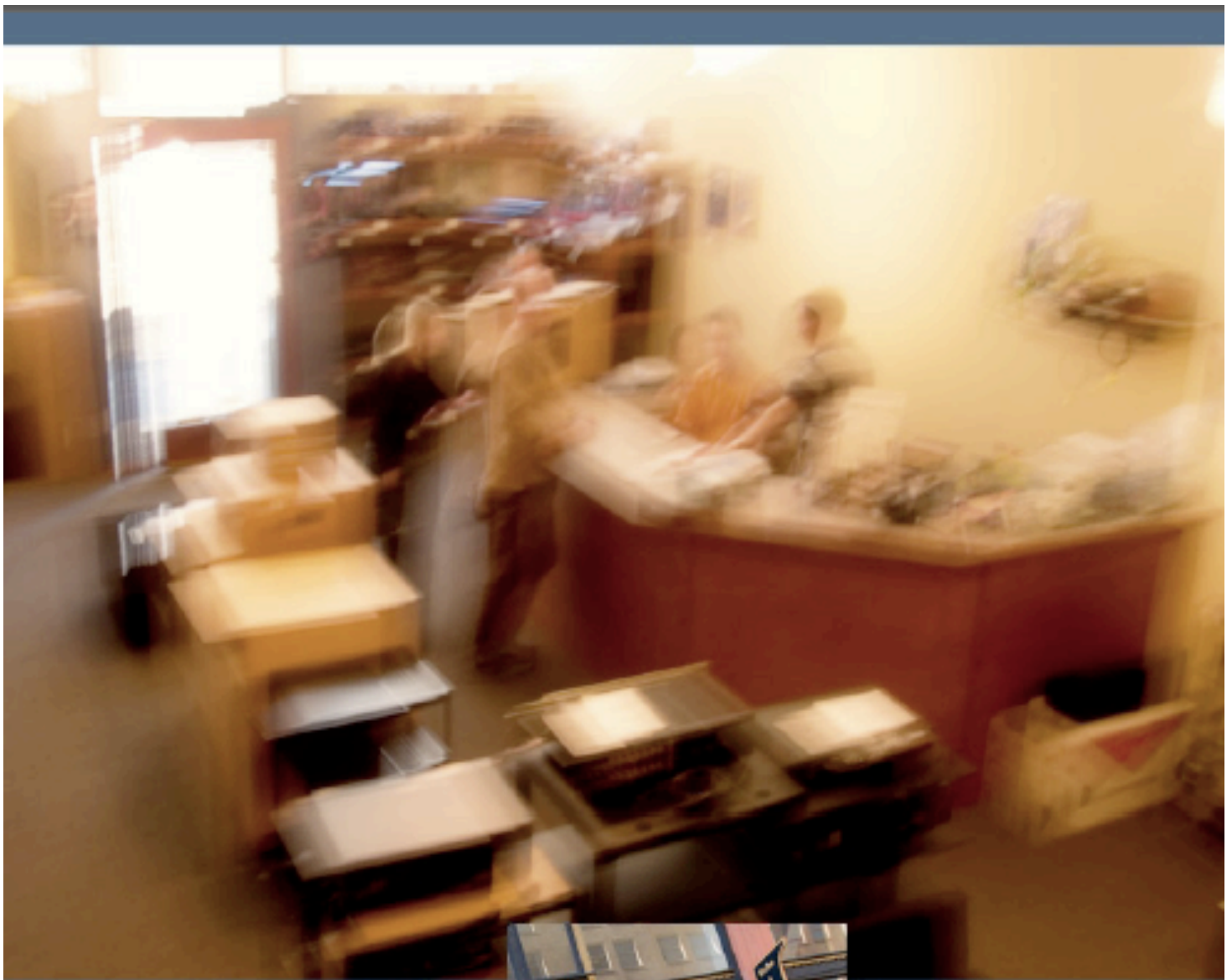
System Used for Review

Speakers: *Anthony Gallo Acoustics Reference 3.1*
Turntables: *Modified Acoustic Research XA Turntable with Linn Basik LV X Tonearm, Sumiko Blue Point Special EVO III Cartridge and Linn Valhalla Power Supply*
Linn Sondek LP-12 with Ittok LVIII Tonearm, Grado Reference Sonata Cartridge, Hercules II Power Supply, Cetech Carbon Fiber Subchassis and Armboard and Herbie's Way Excellent II Turntable Mat
Digital Sources: *Yamaha DV-S5860 SACD/DVD-A/CD Player*
Toshiba SD-3950 DVD player with Vinnie Rossi mods
Apple iPod Classic, 160 gb
Amplification: *Yamaha MX-D1 Stereo Power Amplifier*
Anthony Gallo Acoustics Reference 3 Subwoofer Amplifier
Pre-Amplification: *McIntosh C712*
Cables: *Mapleshade Speaker Wire, Blue Jeans Cable, AudioQuest, ProSolutions and AR interconnects*

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

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Staff Biographies:

Stew Nelless, 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.

Lorin Elias works in academia as a psychologist in Saskatoon Saskatchewan Canada, and he spends an unhealthy amount of time and money pursuing musical experiences. He loves playing piano and listening to music with his wife and kids.

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