

Affordable\$\$Audio

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Auditory Vacation

Every summer the wife and I head to the central Oregon coast for a few days, indulging the senses in the simple beauty of waves, sand, and (hopefully) sunshine. We do our best to limit our connection to electronics, no texting, limited phone calls and social media. The goal is to retune ourselves to the natural connections of life.

Those who truly can walk away from the day-to-day grind in order to refresh themselves are the lucky ones. My realtor in Denver used to escape to a cell phone-free area of Mexico a couple of times a year. This renewal was the only way he could survive his normal seven day a week insanity. Pro football coach Mike Shanahan all but locks out the staff and himself for a few weeks just before training camp just to re-energize.

One of the other things we attempt to limit is man-made noise. The ocean waves do a masterful job of filtering out all sorts of electronic amplification. Three glorious days without the incessant BOOM, BOOM, BOOM of someone's crappy car stereo is worth the price of the seaside accommodations alone. I take it a step farther as I leave at home my iPod and portable system. It's not because deep down I'm not actually a music lover. In reality it's because I love music so much that I escape from it for a few days. Much like a spring cleaning of one's home, the mind itself needs a good flushing out on occasion. As humans we trap so much stuff in our conscious and unconscious thoughts that after a while a film develops that takes away the intensity of the colors, sounds, and tastes that our senses absorb.

By giving myself a break from music I'm cleaning the stale air and noise that has cluttered the concert hall in my mind. The melodious simplicity of the surf crashing onto the beach, slowly scrubs all the barnacles of sound that have slowly cluttered the auditory senses. It's a natural removal then polishing of the aural chamber. Even while I'm in conversation with my wife or reading a novel, the clearing out continues. Those of you who have spent a night listening to the waves come on shore, or a river running by and have fallen asleep understand what takes place. Even an all night rainstorm while one sleeps with the windows open has a cleansing effect.

Even our couple of hour drive home is done with the radio off. It is only when we hear the music from the car next door that we begin to reacquaint ourselves to the wonders of music. Only that evening after the car has been unloaded, bags unpacked and put away do I finally turn the stereo on and begin with a simple acoustic selection. Oh the wonder of it all, the sheer saturation is breathtaking. The music is sweeter, much like a bowl of freshly picked fruit. The tastes and textures of every sound soothe and dance with a clarity forgotten over the past months. The cleansing though difficult in the beginning as the mental craving messaged is lost amid the newness. It's Michaelangelo's frescos on the Sistine Chapel right after the cleaning of the 1980's. Yes, music is more beautiful, just like it was when it was first recorded/heard.

Therefore, if you haven't done so in a while, take a few days off, find a way to flush your sonic memory storage. Then come back and hear how much better the music sounds. It's worth it!

RE MUSIC
I migliori media audio - The best audio media

Grant Fidelity TubeDAC-11

By Dan Nielsen

dannielsen@affordableaudio.org

Specifications:

Input: Optical, Coaxial, USB, Analogue x 2

Input digital signal format: 32-192 KHz, 16/24 Bit auto detection. (USB 2.0 supports up to 24Bit 96KHz)

Output: DAC output, pre line output, tube buffer output.

SNR: >120dB.

Dynamic Range: 115dB.

THD+N: <0.0008% at 20-20KHz (tube out :0.02%)

Frequency response: 20-20KHz -0.2dB.

Output Level: DAC output: 2V, pre line output/ tube buffer output max 6V

Output Impedance: Line out and Tube out - <20 ohm, DAC out < 600 ohm

Headphone output power: 110mW at 300 Ohm, and 600mW at 32 Ohm

Channel separation: DAC and Headphone output - 105dB; Tube output - 90 dB

Tube 6n11 (6922, E88CC, 6DJ8, 6H23n)

Power consumption: <20W.

Net Dimensions: 10" W x 7" D x 2" H

Net Weight: 1.6Kg (3.5 lb)

Package Size: 12" W x 12" D x 4" H

Color: black faceplate or silver faceplate

Price: \$350

Website: www.grantfidelity.com



I admit it I like things that serve more than one purpose. The kitchen chair that serves as a step stool, my Swiss Army knife, 4-door pickups, and of course the smart phone. I even have a bit of a soft spot for vintage stereo receivers. With that declaration in place, I was honestly intrigued about the opportunity to review the Grant Fidelity TubeDAC-11 as two years ago (issue 55, July 2010) I reviewed the previous model, the TubeDAC-09.

The TubeDAC-11 is not a refresh; it's a whole new piece of gear. The external layout both front and back is new. The case is very solid and a bit heavier than one might expect. All edges are rounded and the screws fit tight. The review unit came in the brushed aluminum face (brushed black is available), with the left front face left rather clean with only the logo along with the POWER and DIGITAL red indicator lights. Next, is the INPUT select knob with a heavy feel and definitive click for each of the five inputs: LINE A, LINE B, S/PDIF, OPT, and USB. Traveling farther along to the right, the standard headphone input and finally, the volume knob.

Turning to the rear the layout is logical, something this engineer deeply appreciates. Along the left side are the three outputs: LINE OUT, TUBE OUT, and DAC OUT. The first two's output is variable (6v RMS max), controlled by the volume control. The DAC output is fixed (2v RMS max) for those planning on using the unit as a solid state DAC. After a bit of room to separate the sections come the INPUT B, INPUT A, S/PDIF, OPTICAL, and USB. A vertical POWER toggle switch and a switchable 115/230v power cord socket finish the tour. FYI, the switch is set to 230v!

One thing I have noticed in the past few years is the improvement with interior layouts of audio gear. Starting with circuit boards and ending with the wiring the TubeDAC-11 is much neater than its older sibling. The circuit board is actually larger, allowing for more room, and the wiring over the board has disappeared. Accessibility to the 6n11 tube no longer requires delicate maneuvering. A toroidal transformer power supply is now used. To run the D/A conversion the TubeDAC-11 uses the Cirrus Logic CS4398 chip.



Listening

One thing I've always appreciated about Grant Fidelity, Aperion Audio, and Audioengine is that not only are the necessary cables/wires, etc. provided, but the complimentary ones as well. In the case of the TubeDAC-11 that meant finding the not only the power cord and USB cables, but the optical as well. Before listening I hooked up the TubeDAC-11 to the Wadia i170 iPod dock using the S/PDIF output to send the direct digital signal to the DAC. The 160gig iPod files are all in lossless format. I began with just casual listening for three days while I worked on a business project. When not in use I let the unit continue playing thru my Sennheiser HD650

headphones. After some 75 hours of burn-in I began the review process.

For the first couple of days I used the standard headphone jack that meant getting only solid-state output. Since my own DAC is solid state I felt this was the fairest starting point. Immediately, I was struck by how dark/silent the back ground is presented with the TubeDAC-11. Remember the first time you heard a cd being played after growing up with cheap sounding vinyl or cassette players? That's the best description I can give. But in no way can it be described as sterile, the instruments and vocals all had naturalness, though with a bit of edge on hotter recordings, much like my Cambridge DAC.

Late spring here in the Pacific Northwest weather-wise is a smorgasbord; rain and sun intermingle on an hourly rate. Music choices that seem fitting one moment are casted off as quickly as the sun parts the clouds and visa verse. One artist that seems to always fit this mosh pit of meteorology is Mark Knopfler, especially his album *Sailing to Philadelphia*. The opening track "What It Is Now" with its extended cymbals near the end confirmed that the TubeDAC-11 goes to the cliff edge to gather the farthest reaches of high frequencies

After a week of playing a wide variety of artists I grabbed my RCA to headphone interconnect of respectable quality and began listening via the 6n11 tube buffer stage output with ADA4075-2 opamps. I prepped myself for an obvious increase in noise and thicker sound. The TubeDAC-11 gave me another surprise, only the absolute vaguest hint of lower signal to noise, and just enough rounding of the sound field edge to cool those few hot recordings. After switching the headphone jack back and forth a few times I was sold, the tube output to the HD650 was the future listening route via the cans. The shimmering edge that effects many solid state DAC's was gone, yet the transients didn't became heavy or slow. The sound did warm; Neil Young's vocals in track after track of *Harvest Moon* retained that subtle hint of nasalness. The vocals in "Natural Beauty" recorded live have a sweetness that belies his age at the time of the recording. The xylophone that weaves itself in and out of the song is placed back but presents unmistakable warmth all the while the harmonica's metallic sharpness comes out as several feet in front, just where it should be on stage.



Looking back upon my notes regarding the TubeDAC-09, I called that DAC aggressive and made for rock and roll. The TubeDAC-11 is a completely different beast altogether. Its signature is more universal, it doesn't create a

characteristic instead it presents a comfortable performance. The recording is allowed to stand on it's own. Todd Rundgren's *Second Wind* live* (*on the stage at The Palace of Fine Arts in San Francisco) cd isn't the most three dimensional live recording, but it's as clean sounding as one can get. The TubeDAC-11 conveys this truth accurately especially in "Who's Sorry Now?" The silence is eerily quiet at approximately 3:45 seconds when the lyrics end and the synthesizer kicks back in. The track "Kindness" with its transitions from simple to complex with plenty of synthesizer and occasional heavy percussion takes advantage of the "live" performance best. Where the TubeDAC-11 shows it's worth as a top notch DAC/headphone amp combo comes during full blast rocker "Public Servant". The Topping TP-31 struggled to maintain distinction between instruments. The TubeDAC-11 had no such qualms; guitars, cymbals and synthesizer were distinct even with the more two-dimensional sound.

With the TubeDAC-11 running into a Mini-Watt N3 SET amplifier and 1980's Klipsch speakers at a college buddy's home on a Sunday, I preferred the SS output of the DAC into tubes rather than the tube/tube sound. Too much rounding of edges, the acoustic guitar and cymbals lacked definition. Going back to Knopfler's *Sailing to Philadelphia* with the solid-state output the title track gave proper detail to the compliment of Knopfler and James Taylor's guest vocals. If a tube amplifier is your power source take a good listen with both outputs to find what best works for you.

In this case, too much tube sweetness did exist.



In comparing the TubeDAC-11 to my Cambridge DACMagic the results were a bit of a revelation. Using the USB outputs from my laptop I placed both units into my main system of the Cambridge 640 integrated and Swan 2.1 SE speakers and level matched. The source was the Cambridge Azur 640A cdp. The DACMagic created a slightly wider soundstage and handled large orchestra music with a bit more detail. The TubeDAC-11 in SS output came off a bit crisper on the top end, but surprisingly was the quieter of the two with less ambient noise. Switching over to the tube output, the TubeDAC-11 became the more musical of the two DAC's. The added warmth more than compensated for the slight loss of resolution.

Final Thoughts

Five years ago if you told me that the engineering quality of budget DACs would improve this much I would have responded with all sorts of factoids about commoditization. But something good has happened, sound quality has somehow managed to gain some footing. Maybe it's because of small companies pushing the standard-bearers. Whatever the case, budget audiophiles should be grateful. What Grant Fidelity has created with its Chinese manufacturer is a standout unit. For just \$350, the TubeDAC-11 is a not-to-be-missed audio bargain. The capability as a DAC, headphone amplifier, and traditional preamp with both tube and SS output makes it a must-keep unit. The question is where do I use it, work office, or home office?

Associated Equipment

Cambridge Audio 640 integrated Amplifier
 Mini-Watt N3 SET amplifier
 Cambridge Audio 640A cdp
 Apple iPod 160gig
 Wadia i170 transport
 Cambridge DACMagic
 Sennheiser HD 650 headphones
 Swan D2.1 SE speakers
 Klipsch Speakers
 Apple MacBook Pro Laptop



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- zebra wood
- rosewood
- figured sycamore
- cherry
- china burl
- maple

sides/buttons

- fuchsia
- clouds
- mesa
- redbrick
- snow
- black

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positive feedback

a Creative Forum for the Audio Arts

Vista Audio Phono-1

By Mark Marcantonio

publisher@affordableaudio.org

Specifications:

Direct Coupling (no capacitors in the signal path)

MM or MC versions

0.12dB RIAA tracking

<0.005% THD

Class A operation

Bandwidth: 10Hz-150kHz

Input impedance (MM): 47kohm, 150pF

Input impedance (MC): 47 or ohm

Gain (MM): 40dB

Gain (MC): 60dB

Gain and loading tailored to a specific cartridge at no charge

Passive RIAA

0.5% resistors

2% capacitors

Active offset Cancellation

Gold plated PCB

Steel case for EMI shielding

Measurements: 4" W x 1.25" H x 2.5" D

Warranty: 2 years, Made in the USA

Price: \$299

www.vistaaudio.com



Some of the best pieces of audio gear at the various price ranges have a tendency to stay almost invisible. The item blends in so well to the system that one easily forgets that it's even hooked up. For the past several months I've had the opportunity to spend time indulging in the stealthy abilities of the \$299 Vista Audio Phono -1 preamp.

Part of the initial charm of the Phono-1's small stature (it's just slightly thicker than the original iPod) as designer Boris Sasic points out in his on-line essay on designing the Phone-1 the necessity to keep size to a minimum thus allowing for close placement with other equipment with short interconnects. The case is of a metal gauge thick enough to feel both substantial as well as strong enough not to flex. Its compactness allowed me to attach the Phono-1 to the vertical skirt on the back of the turntable stand I use with a minimal amount of Velcro. For most the standard placement comes with two nice touches on the top of the casing. First being the power LED, and second is the input/output, ground and power switch labels.



It's a real savior for those of us with middle-aged eyes. The front face is adorned by only the Vista Audio label. The back panel from left to right holds the POWER toggle switch, right and left input and output RCA jacks, brass ground wire connection screw and the socket for the outboard wall wort. The sides each hold two screws, and finally four rubber feet are attached to the base.

Before touring the interior of the Phono-1 (as well as a handful of times since) I read thru the design essay. As fellow staffer and engineer Dan Nielsen pointed out, Boris loves the engineering process. Goals and objectives are written down, parts researched, design style choices made, and RIAA parameters applied. Only then is the sample model

constructed, tested, adjusted, tested, adjusted and tested more, etc., etc.

Under the hood the layout of the components is logical and fittings are solid. Solder points are thick, but not sloppy. The RCA input/output jacks are screwed into the metal tightly; no flex or give can be seen or felt. This is a personal pet peeve of mine, as I have previously had to spend money on repairing non-anchored jacks. In the end one sees a logical, clean, and responsible design.

The Phono-1 can be ordered in either MM or MC setup depending upon your cartridge. Boris offers the ability to setup the Phono-1 to specifically match your cartridge's load and gain setting. The Class A design using the direct-coupled approach the capacitors stay out of the circuit path thus allowing for an ultra-wide bandwidth and low noise floor. This passive design achieves a solid RIAA tracking error number of just 0.12db



Listening

Since the Phono-1 is priced in the budget range first comparisons were made using the Rotel RA-1520 integrated amplifier with a built-in phono stage. The Phono-1 was plugged into the AUX input of the RA-1520 powering a pair of Verity Audio Finns. The source for the entire review was the Rega RP1 with the Ortofon Super OM40 cartridge. Upon first setup I did detect some noise coming from the Phono-1 that didn't appear with the Rotel. The issue was solved after moving the Phono-1 wall wart to its own outlet socket and keeping the power wire away from other cords.

The Rotel internal phono is quite respectable for a built-in unit, but the Vista Audio Phono-1 bests it across the board. The differences come about in the separation of similar sounding instruments and vocals of a similar nature. Dan Fogelberg's notorious breathy vocals occasionally blended with a fuzzy synthesizer with the Rotel. Listening to the same songs from his *Netherlands* album the Phono-1 suffered no such lapses. The differences were clear with every song. The bass punch in the song "Scarecrows Dreams" that came across a bit lacking in the Rotel, had a fully presentation with the Phono-1. As more music by a variety of artists was played, it became quite obvious that the Phono-1 improvement over the built-in Rotel phono was truly similar to that of peeling off a layer or two of an onion. More detail from top to bottom as well as spaciousness was being presented.

RICKIE LEE JONES



Connecting the Phono-1 to my reference Sim Audio Moon i7 integrated amp where usually the highly regarded Moon LP5.3 does its business could sound like a big come down in performance. Instead the Phono-1 performed admirably. It peeled off another thick layer of veiled sonics from what I heard with the Rotel amp. Spinning *Rickie Lee Jones* debut album is always a treat and the Phono-1 didn't disappoint. The track "Young Blood" is a great example of why vinyl touches so many audio fanatic souls; every instrument has space, resolution and warmth. A tough song for budget phono stages to play without muddying up the vocals is Jones' "Easy Money" as her trademark singing blends syllables together. The Phono-1 manages to keep clear the necessary details and treat the listener to subtleties that make the album so beguiling.

One of my favorite test tracks comes from the same album, "Danny's All Star Joint" as it contains one of my favorite bass guitar recordings in rock/pop music. It's a strong pace that easily can wash out other instruments, which at times accomplished on the Rotel. Not so with the Phono-1, the horn section keeps its own space and tangy detail. Finally, in

“Coolsville” the bass tom hits came out with enough detail to signal to this former drummer, which hits were outside the center of the surface.

Wanting to challenge the Vista Audio to more complex arrangements, I pulled out a prized 1965 London Phase 4 Stereo copy of Aaron Copeland’s *Grand Canyon Suite* conducted by Ferde Grofé. One of the things that makes this work special is the usage and solos of thin-reeded instruments the bassoon and oboe. The second movement “Painted Desert” treats the listener to both. The bassoon is full and rich that one can easily picture cascading across the canyon. The oboe, an instrument that my sister painfully haunted the family during her first year of playing and later entranced us, provided the kind of clarity and mid range beauty that rarely is heard.



The Phono-1 did show its limitations with the *Grand Canyon Suite*, the last minute or so of “Sunrise” the strings dissolved into a hard edge, something that is much less apparent when played thru the reference Moon LP5.3. This same limitation reared up while listening to the springy “On the Trail” movement. The clarinet and French horn while pleasant lacked the richness even when played thru my Vista Audio i34 integrated tube amp. Positioning and separation also narrowed in comparison to the LP5.3, but at 20% of the price of the Moon, the Phono-1 performs quite well. The full orchestra attack at the end of “On the Trail” is presented in all its dynamic boldness. One of the subtle niceties of the Phono-1 is the way it handles the increasing loudness of orchestra instruments in “Sunset” without turning shrill. This was something the Rotel struggled to handle. The plucking of the strings and the flute were both particularly resolving.

Final Thoughts

Good audio begins with honest quality engineering and the Vista Audio Phono-1 is a fine example that such quality need not be budget busting. By following goals ahead of price point, Boris Sasic has brought a worthy product to the market. It does what it is actually capable of doing very well, and that means the basics of replicating phonographic sound. In doing so the Phono-1 avoids the pitfalls that so many budget products find, namely trying to be everything at a price that makes such ideals impossible. The Vista Audio Phono-1 keeps it simple and straightforward. Because of that it’s a winner that any budget-conscious audiophile will appreciate and find worthy in their system.

Equipment used:

Rega RP1 w/Ortofon Super OM40 Cartridge
 Sim Audio LP5.3 Phono Preamplifier
 Sim Audio i7 Integrated Amplifier
 Vista Audio i34 Integrated Tube Amplifier
 Shunyata Venom power cords
 AudioArt IC-3 Interconnects
 AudioArt SC-5 speaker cables

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A Quick Review Of A Few Entry-Level Dacs

By Danny Scarbrough

Publisher's Note: This comparison originally appeared on the Polk Audio Forum. It appears here courtesy of the author.

A few months ago I set out on a mission to do a comprehensive comparison of as many entry-level DACs as I could get my hands on. I use the term "entry-level" loosely, as I was looking at models under \$500. Many people may not consider \$500 an entry level price point for a DAC, and I'd agree that the dollar threshold is debatable. Nonetheless, there were DACs nearing the \$500 mark I wanted to include and so I set that as the somewhat arbitrary price limit.

The goal was simple, yet a bit lofty. I would make a list of all the DACs I wanted to hear; acquire all those DACs simultaneously; burn them in; and then take a full weekend to do a 'proper' review—complete with full analysis and comparison of every model. This was going to be the be-all, end-all review and resource (all just my opinion, of course) for anyone looking at DACs in this price range.

Well, that didn't work out like I planned. Stuff happens; life gets in the way; and I wasn't able to get all the DACs simultaneously to do the review the way I'd envisioned. Instead, I ended up acquiring the DACs two or three at a time over the next couple months and doing the reviews somewhat piecemeal.

The end result is different than I'd imagined, but in retrospect this approach may have worked out for the best. I think the review and information as I'd originally planned to present it would have been overwhelming. The review I'm presenting here is already long enough... hard to imagine anyone sifting through dozens of pages of detailed listening notes on different models.

I've taken half a dozen or so external DACs and am providing some quick impressions on each model. I've also thrown in a couple built-in DACs like the Oppo and Squeezebox Touch as a helpful reference. You'll note that every DAC meets the price criteria and also has a USB input—those were the two requirements.

This is not an in-depth review on any of the models, but rather a quick overview of each model. The revised goal then was to provide more of an overview; the objective is that you'll come away with a better understanding of what each DAC sounds like.

THE DACS

Audio-GD NFB-3 – received a DOA unit; waiting on replacement
HRT Streamer II+
Musical Fidelity V-DAC Mk II
Oppo 83-SE DACs
Squeezebox Touch DACs w/upgraded linear power supply

Cambridge Audio DACMagic
Keces DA-151
Musiland Monitor 02
Peachtree Audio DAC:iT
Schiit BiFrost

METHODOLOGY



The listening was done primarily on a couple headphone rigs and then the results were 'verified' by doing some blind switching in the living room on the PSB Image B6 driven by a Pioneer SC. The HT setup, while good, is not as revealing as any of my headphone gear. My general approach was to formulate an opinion on the headphone rig, then have my wife assist with a blind test on the speakers, and luckily my opinions always lined up between the two, with an exception I'll talk about later.



I have lots of headphone gear, but here's what I used for the testing: Schiit Valhalla tube amp, Woo Audio WA6 tube amp, Sennheiser HD600, HD700 and Beyer Dynamic DT880 600-ohm version. The HD700 may be the best of the bunch but is new to me and I'm more familiar with the HD600 and actually prefer them, so I tended to use it as my reference headphone and brought in the others as necessary to confirm results or listen to something specific. All the headphone gear was connected to my iMac running Amarra HiFi on top of iTunes. Amarra replaces the crappy built in iTunes playback engine, providing superior sound and more importantly, automatic sample rate conversion. I have an engine I've been working on as well, but wanted to stick with Amarra for this since it's industry standard. DACs were connected via the Musical Fidelity V-LINK USB to SPDIF converter and directly via USB, each where possible and where needed, I'll expound on this more as I review each DAC.

In the living room, I alternated between the Oppo and SB Touch as sources, although I used the Touch more often so I could play and compare the exact same files on both systems.

LISTENING MATERIAL

All tracks were lossless FLACs, confirmed accurate rip via dbPowerAmp or Hi Rez where indicated. You'll notice that not all these are reference recordings, the ability to handle both excellently- and poorly-recorded music is important to me. I've marked those that I consider reference quality material with an *...hi rez tracks/HDTracks are marked with a +. The layout is "Artist – Album – Track Title."

Al Di Meola – Friday Night in San Francisco – Mediterranean Sundance *

Alison Krauss – New Favorite – Let Me touch You For A While

Chris Isaak – Heart Shaped World – Blue Spanish Sky

Dave Brubeck – Time Out – Blue Rondo *

Diana Krall – Live In Paris – Under My skin *

Dire Straits – Brothers in Arms – Your Latest Trick *

Dire Straits – Love Over Gold – Telegraph Road *

Dream Theater – Awake – 6:00

Dream Theater – Dramatic Turn of Events – Bridges In The Sky+

Eagles – Hell Freezes Over – Hotel California

Fleetwood Mac – Rumors – The Chain+

Hans Zimmer – POTC At Worlds End – I Don't Think Now is the Best Time *

Head Fi – Open Your Ears – Money **

John Coltrane – Blue Train – Moments Notice

John Powell – Bourne Ultimatum – Tangiers

Mark Knopfler – Sailing to Philadelphia – Sailing to Philadelphia

Massive Attack – Heligoland – Splitting The Atom *

Muse – The Resistance – Symphony Part 1

One O-Clock Lab Band – Lab 92 – Fingers

Opeth – Blackwater Park – The Drapery Falls

Pink Floyd – Wish You Were Here – Welcome to The Machine**

Porcupine Tree – Fear of a Blank Planet – Anesthetize *

Rush – Moving Pictures – Tom Sawyer+

Seal – Seal – Dreaming In Metaphors

Spies – By Way of the World – Bahia *

Steely Dan – Gaucho – Hey Nineteen+ *

Sting – Ten Summoner's Tales – Seven Days

Tchaikovsky – Tchaikovsky Festival Leaper – Marche Slave *

Vince Gauraldi – Charlie Brown Christmas – My Little Drum+

Yo Yo Ma – Vivaldi's Cello – Concerto in G Minor Allegro *

RESULTS

These are my impressions, and the descriptions may be a bit informal for some people's tastes, but these are just the notes I took and words that came to mind when I put pen to paper. So, in no particular order...

Cambridge Dacmagic, original version



The Cambridge is fairly resolving but has no real sound to it; I guess sterile is the best word I can think of. One man's sterile though could be another man's extremely accurate. I'm sure the DAC is very accurate but honestly to me sounds a little lifeless. I've heard people say this DAC is typical Cambridge sound, but I'd only somewhat agree. I realize that Cambridge gear isn't the most lively stuff out there but I've always found it pleasing to my ears, especially their small integrated and the 840 CDP

that I heard. This one just seems to have less energy to the sound. There's less impact than with the other models. With the DAC I preferred the sound using the V-Link converter as opposed to the USB on the DAC, but honestly it was very close, either way it didn't materially impact the sound.

HRT Music Streamer 2+

I did not care for the HRT at all. It has asynchronous USB and seems to be well liked but I just don't hear it. It's very digital sounding (yes I know that's not all that helpful but it's the best I've got). It's not like there are artifacts in the music or anything dramatic, and it's not really overly bright, but does lean in that direction. The instruments just didn't sound real, the soundstage was flat. This DAC sounds exactly the same as the other HRT Streamer that I heard a while back, and I didn't like that one either.



Musiland Monitor 02

The Musiland is actually a good DAC at its price but just isn't quite in the same league as the others. For me there was honestly no obvious sound characteristic or flaw with it like there were with the other two. It's just not quite as detailed and the sound staging just isn't quite as good as the other models. Simply put, there are things in the

recording that I'm hearing with the other DACs that I don't hear with this one. I'm not talking about obvious things like notes but more ambient sounds. When you hit a low C on a piano you not only hear that note but some slight harmonics as the adjacent strings vibrate a little as well... I don't hear those as much thru this DAC. I have a recording of the One O'clock Lab Band at UNT from 1992, and on Track 2 there's a part where I can hear the keys hitting the pads as the sax section plays through a part, but I can't hear that very well on the Musiland. If Monitor 02 was the only DAC I'd ever heard, I'd likely be satisfied... and at its price it may be one of the best options, but knowing what I'm missing kills it for me.



Musical Fidelity V-DAC Mk II

I had on hand both the original version of the V-DAC and the MKII. The main advantage of V-DAC Mk II is that it basically has the VLINK built in, so does synch USB itself. I hooked this one up directly via USB and through the VLINK and it sounds exactly the same. I also compared this to the original version and could not hear much difference. I told myself that this one sounded a tad better because it should sound better, but this is the one exception that I mentioned above where my blind test results in the HT did not line up with what I did on the headphone rig. It could be that my HT system isn't revealing enough, or it could be that this really does sound just like the first version, either way on my setup it didn't make a difference. I would describe the sound on this as similar to the Cambridge, but to a lesser degree. I found the Cambridge to be sterile, and while the V-DAC had more life to it, there was still something clinical about how it sounded. I don't want to slight this DAC because it is very good and is actually what I used and recommended for a good while, but when compared to some of the other models here it just seems to be lacking in some regard, and the best way to describe that is a bit lifeless. I bet it's a very bit-accurate DAC, but what I'm looking for is more impact to the sound, and I feel like it's missing here, but only when compared to the other models.



Schiit BiFrost

Ohhh, I wanted to like this one! I have a couple of their amps and they're very good, and they've got an exciting new DAC coming out soon, and despite what other people say, I love the name. I tried this Schiit both ways, hooked via the MF VLINK and directly via USB. The USB implementation on this DAC is an afterthought, the guys who sell it are open about the fact that they're not crazy about USB, the VLINK hookup option sounded better here by a good bit. That being said, I didn't like the BiFrost all that much. It definitely had the impact I'm looking for, but carries with it more of a bright sound, I'd almost call it digital, kinda like the HRT Streamer but not to that extreme. The BiFrost brought too much of an edge to the sound. This doesn't surprise me as even their tube headphone amps (which I own and love) have a bit of SS sound to them. It seems like the house sound for Schiit is a tad on the bright side of neutral. That works great with their headphone amps because it gives them a very balanced sound (a lot of tube amps almost sound too syrupy, especially the OTL amps I've owned), but not so much with this DAC. It is very revealing and very detailed, so if you're looking for something to bring a warm sounding system back to neutral this just may do the trick; it just didn't blend well with my systems which are all fairly neutral.



Oppo 83 SE DACs

I have the Oppo 83 Special Edition, which I believe has either Sabre or Wolfson DACs, think it's Sabre. [8-channel Sabre³² Ultra (ES9016) DAC for audio... Ed.] I decided I'd throw this in the mix to get some perspective of the value of an external DAC over a very good transport DAC. I honestly didn't get the results I expected. I was looking for a night and day kind of difference and didn't get that at all. Whatever they did in this player was well done. It has a very smooth and detailed sound, I ended up falling in love



with my Oppo all over again doing this test. It doesn't quite have the impact that my favorite DAC has, but it's very, very close. This makes me happy, because this is what I use for SACD playback, it was nice to see it stack up so well against the other models. It wasn't really fair to throw this one in the mix since it can't be used as a stand-alone DAC and therefore can't serve that purpose, but I wanted to give some additional perspective nonetheless.

Squeezebox Touch DACs

The Touch actually has a nice built in AKM DAC. I'm not familiar with that company but they appear to make several DACs and I read somewhere that the DACs in my Pio SC are also AKM. The best way I can describe their sound is a very balanced overall sound. They don't really do anything wrong, and yet don't do anything outstanding either.



Honestly though, most people would be perfectly satisfied with this DAC. If I'd never heard anything else I would be satisfied using this DAC. It has better sound than the DACs in my AVR and I used the built in DAC for some time after I got the Touch, and posted lots about how much I liked the sound. The issue arises when you compare it to a very good external DAC, it just doesn't have the resolution, high-end extension and low-end impact that my favorite external DACs have. In comparison, even the Oppo's DAC sounds better than this one, but not by a mile. A small plug for the Touch, it's a great device and WILL change the way you listen to music, especially when paired with a good DAC and a decent power supply.

Keces DA-151 MkII

The Keces DA-151 MkII surprised me a little... actually a lot. Of all the models I tested, this was on the cheaper side. It is a USB only DAC, so using the VLINK was out of the question as was testing in the HT system, only USB to computer on the headphone rig. What a superb sounding DAC! The very first things I noticed was the soundstage, a very wide open soundstage. This thing paired with the Beyers was unreal, almost literally. This thing just has a very transparent, neutral sound overall. It's hard to describe, it just sounded perfect. If I had to criticize I'd say it can be a little forward sounding, but that's getting picky and not even consistent from track to track, but on some vocal-focused tracks it does tend to happen. The DA-151 MkII is the perfect case of a DAC not being all about the chip used but more about the design. I believe the chip



used in this model is a fairly standard TI chip that I've seen used in a lot of other models, so it's not like they've got some super-duper chip in there, they've just done a brilliant job designing it. So is this my favorite DAC? It's hard to imagine something sounding much better than this so it has to be, right? No. There are two reasons this is not my favorite DAC. Mainly, it's USB only and simply won't work for everyone, hell it won't even work for me in my HT. For a USB setup at its price, there simply cannot be a better DAC on the planet, but if you need a multi-purpose DAC this isn't the one for you. Secondly, I tested a DAC that sounds even better!

Peachtree DAC-iT

The Peachtree DAC-iT is, simply put, the best DAC I've ever had in my possession. Is it as good as one of the more expensive models like the Benchmark or W4S DACs? I don't know, this is an entry level comparison. In reality, it's



hard to even call this an entry level DAC. But at \$450, it is on the low end in terms of price in the overall world of DACs, though on the higher end of all the DACs here. The sound of this thing is just perfect, it's hard to imagine anything better yet I know there are lots of more expensive DACs out there. The sound is very musical, the DAC-iT is just fun to listen to. I would call this very neutral, but if I had to narrow it further I'd say it's just a tad warm of neutral, it has a very 'analog' sound to it. I know that's another audio buzzword, but that's the best way I can think of to describe it. The top end is a tad soft but still very detailed, the mid range is also very detailed but just a tad recessed, and the low end is just extraordinary. The soundstage isn't quite as wide as the Keces', but still very realistic and the imaging overall is better on the Peachtree. I compared this unit using both the built in USB and using the V-LINK adapter. It sounds very similar

both ways, as time passes and I become more familiar with this DAC I may decide that I like one approach better, for now I'm using the V-LINK so that turning off the DAC doesn't confuse iTunes or Amarra about which device is connected. I am on the hunt for a linear power supply for this DAC, I'd like to hear how that affects the sound.

More notes comparing the Keces and Peachtree:

This is personal preference, but poor recordings sound better on the Peachtree, especially on my headphone rig. The Keces is probably more transparent and probably specs out a tad better on paper and may be more 'correct', and that's what you want from a DAC. However, with any audio gear there's always the trick of getting the balance between listenability and accuracy correct. I have ~4500 CDs and a wide range of musical tastes, with that size collection there are bound to be poor recordings, some of my favorite music falls into that category. The Peachtree just nails that combination, I don't feel like I'm losing any details in the music and yet it smoothes over some of the edges in poor recordings. I don't feel like it's coloring the sound either, which is what you'd normally find, it's very transparent and yet still manages well with poor records. That's somewhat of an oxymoron I know, but that's what it is.

Conclusions

One thing that none of these DACs handled especially well was really 'dense' music, there were a few classical pieces that were just too involved that none of these DACs could really untangle very well. However, I've omitted that from each review as it's very plausible that none of the gear in my possession is high end enough to properly handle those passages.

The comparison was a lot of fun, I suppose I'll end by ranking the best I can in order of preference

- 1 - Peachtree Audio DAC-iT
- 2 - Keces DA-151
- 3 - Oppo 83-SE DACs
- 4 - Musical Fidelity V-DAC
- 5 - Schiit Bifrost
- 6 - Squeezebox Touch DAC

All others sorta end up in a tie for... "don't like very much."

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An Amp for all Mankind: Class D Audio SDS-440C Amplifier

By Jake Montzingo

jakemontzingo@affordableaudio.org

Specifications:

Two Channel Amplifier with adjustable gain
 220W RMS Per Channel into 8 ohms
 440W RMS Per Channel into 4 ohms
 Size: 12" X 12" X 3.5"
 Shipping Weight: 20 Pounds
 MSRP: \$665.00

www.classdaudio.com



Class D Audio out of Southern California is owned and operated by Tom Ross. All of his operations including production are done right in Anaheim, California, which means his product line, top to bottom, are made in the U.S.A. Class D Audio has been reviewed in the August 2010 issue of Affordable\$\$Audio, though this is the first time one of Tom's factory assembled amplifiers has been publicized. The SDS-440C amplifier is the latest generation amplifier from Class D audio, and embodies Tom's latest thoughts on amplifier design. I have used and owned several Class D amplifiers, and happen to have a competitive amplifier in house to compare to the SDS-440C. Tom was more than willing to send out an amplifier for me to test, so that Affordable Audio readers have the opportunity to be further exposed to his products.

When I opened the box, I was impressed by the medium size form factor of the amplifier sitting on my table. The first version SDS-440C amplifier that Tom sent me was not the standard 17" width that I am used to with audio products. The amp is actually a smaller 12" x 12" x 3.5", which has an attractive appearance in my equipment rack. The powder coated, sheet metal enclosure has rounded sides, the front panel is free from distractions such as switches, knobs, and the entire package is made just a few miles from Tom's shop in Southern California. The power switch is actually on the right side of the enclosure, which gives the amplifier a clean presentation, and only leaves a few LED on the front panel for operational status. The rear of the amplifier houses all the IEC power plug, recessed RCA and XLR inputs with selector switch, 5-way binding posts, and individual channel gain pots. Removing the top reveals a cleanly laid out and wired chassis with a very large toroidal transformer and separate boards for the power and the amplification. The amp has a solid feel, and is heavier than it looks thanks to the thick front and rear plates, as well as the large transformer. All the connectors are as stout as the chassis of the amplifier, and the amplifier is absent of any mechanical noise when powered up.

This Class D Audio amplifier is unusual due to the manufacturers claim of being able to drive low impedance speaker loads. Typically, less expensive class D amplifiers usually do not do well with reactive loads or dips, as the output chips cannot dissipate heat as fast as a transistor. Many of these amps do not have the ability to put significantly more power out into a 4 ohm load than they do an 8 ohm load, because of this limitation. With a rated specification of

220wpc at 8 ohms and that power doubling into 4 ohms, it looks like Tom designed an amplifier that is not typical. Class D amplifiers are also becoming increasingly popular because of their "Green" title due to relatively low power usage and up to 90% efficiency. There are many variations on class D designs used by manufacturers, but they all work by switching power devices off and on at a very high speed to create the amplification of the need frequencies. This amplification stage is then coupled to a



filter, unlike classic A or B amplification, to filter out the noise created by the high speed switching, leaving only the inputted signal amplified. Despite the "D" title, class D amplification is not digital but a switching version of typical analog technology. Class D technology can be massaged in a few different ways similar to analog amplification, depending on what aspects of the amplification you are looking for; high power, low distortion, etc. With the growth of class D amplification lately, there seems to be a version for almost any audio application.

I always give new audio equipment a few weeks of break-in before I really sit down to give it a listen. After a good month of use, I sat down with a few albums to give the Class D Audio SDS-440C a good listen. For the sake of testing, I decided to start the amplifier out on two very different speakers to test its abilities with difficult loads and high efficiency drivers. The first was a custom pair of Carver ALIII ribbon speakers; this pair was modified at the factory to enclose the back of the ribbon for close placement to the wall, as well as enlarge the woofer box to improve bass response. The speaker will test the ability of the amplifier to deliver current to a speaker with a complex crossover load. The second pair of speakers was a stock pair of KRK KROK studio monitors with an average sensitivity and easy to drive load of 92db.

As the volume rose on Norah Jones' *Feels Like Home*, that first thing I could hear is the low floor noise of the SDS-440C. From zero to low volume, the amplifier was very quiet in its entirety, and provided a very quiet background for music even at a low listening level. With a little more gain, the music flowed from the ribbons with power and dynamics. Norah's voice has so much body to it, and the combination of the Carvers and the Class D Audio amplifier driven by tubes pulled me away from reality until the album brought itself to a close. Having had listened to Norah Jones for many years, I have heard her voice reproduced both well and poorly, and this time the needle was pegged on the excellent side of the meter. The experience was almost perfect, except I heard a faint clicking noise in the left channel periodically, and usually only when no music was present. I had heard the noise since I received the amplifier, but could not figure out what the cause was or how to get rid of it. Immediately I shot an email to Tom to inquire about the clicking noise. His speedy reply was not surprised, and he stated that they had just found a heating issue on the amplifier board, which caused the audible clicking, and were redoing the traces in order to improve the performance, and overall quality of their product. I received an updated version of the SDS-440C amplifier in the mail the next week. Tom's knowledge of the circuit, and willingness to continually refine his amplifier is a trait I certainly appreciate.



Once I received the updated version of the amplifier from Tom at Class D Audio, I assumed that the amplifier would be exactly the same minus the improved board traces. I popped the hood on the amp to make sure, and immediately noticed a few internal wiring changes, as well as some surface mount components replaced with solder-in versions of the same; I would assume to improve power and heat handling. None of these changes surprised me given our previous conversation, until I noticed that the transformer was about 20% bigger! Functionally, both the old and new amplifiers gave off the same amount of heat after being powered on for one hour, and both were just slightly warm to the touch. Even after being left on for 24 hours, the temperature of the amplifier did not change or warm up any further. With a "new" amplifier on the shelf, and another couple weeks on time on its circuits, I started my testing again. With the Carver ribbon speakers in place, and the same Norah Jones playing as the first time around, I turned up the volume once again. After listening through a few tracks, the sound was exactly the same! However, do not be disappointed as that means Tom's redesign was a success. He was able to alter the circuit to produce exactly the same sonic signature and depth of music, while removing the clicking noise caused by heating problems; success!

Next I turned the amplifier toward the KRK KROK monitors. Historically, these speakers have sounded pretty good with a variety of amplifiers; tubes and solid state. Always willing to be the pioneer and experimenter, I do not say that

equipment does not pair well until I have tried it. Changing my set-up to see the flexibility of the SDS-440C, I swapped in a Luminous Audio Axiom II passive preamp and gave the speakers some volume. As Adele's 21 started filling my room with soul, I could hear the slightly forward vocals that I have grown to expect from the KRKs, combined with a powerful midbass. The studio monitors have a very clean and balanced sound with was supported by the Class D Audio amplifier, but they do lack the ability to play loud in any room larger than a small office just like any speakers



intended for near field application. The power output of the amplifier required me to not turn up the volume too loud or I would easily over push the KRKs and make them sound congested and strained. However, if I kept the volume at a reasonable level, the Class D Audio/KRK pairing sounded very clear and detailed, with neutral musicality. Wanting to keep the party going, I put the W30 back in front of the Class D Audio SDS-440C, and adding a little tube warmth to the mix, I played through Adele one last time. The tube and solid state combination provided a very nice music experience, and keep the sonic signature about the same as the passive preamp, while only erring slightly towards a softer attack of the music.

With the SDS-440C excelling at both the speakers so far, I decided to throw a popular mid-fidelity speaker at it for comparison. With the amp carted over to my Father-in-law's house and connected to his Polk LSi15s, we played through the 24/96 re-release of Rumors by Fleetwood Mac. Similar to the Carver ALIII speakers, the Polk's have a 4ohm impedance, and historically have required a lot of power. Once again I hooked up the Luminous Audio Axiom II passive preamp as volume control as I hoped the Squeezebox Touch would provide enough gain. We cranked the volume and the band sounded good, very detailed, very full, with a pleasing, warm tone and full sound stage. Once again, another low impedance, heavy load speaker that the Class D Audio amplifier made sing. For a fun comparison, we swapped the usually amp back in that my Father-in-law runs which is also a class D amplifier of similar design, but a different manufacturer. With the same equipment in the chain and the same album playing, we could hear no difference between the two amplifiers. Both sounded very good with the speakers, but the Class D Audio SDS-440C was 66% of the price of his W4S ST-250 amplifier at an MSRP of \$999. Congratulations Tom, a fine amp built at a more than reasonable price.

I could only find a few limitations surrounding the amplifier through my review process. First of all, the amp did not pair well with my corner horns speakers, but I did not expect it to as most amplifiers do not. Second, I love the fact that the SDS-440C has gain pots for each channel to provide minute tweaking, but I wish the pots were either stepped, or the knobs on them were notched. With the amplifier in my component rack and the knobs on the back of the amplifier, it was hard to set them precisely without seeing them, and with them having no tactile feedback. However, I do know that this is a minor complaint, and that Tom has some hard design decisions to make when he sells an amplifier for as reasonable a price as the SDS-440C. Last, with the new and larger transformer, if something is set on top of the amp, the lid touches the bolt holding the transformer in place and buzzes due to vibration; although one should never be stacking equipment on amplifiers in the first place. Once again, it is an observation that I relayed to Tom during the review process, and I quickly received the reply that they switched to ¼" shorter bolts in order to avoid the issue. As my short list demonstrates, I don't have too many complaints about the Class D Audio SDS-440C, and really none of them would effect or even bother 98% of audio listeners out there who would consider purchasing an amplifier such as this.

The bottom line with Class D Audio and the SDS-440C amplifier is it's a steal of a deal. This amplifier is on the same level sonically and aurally as most class D audio amplifiers out there, but at a less expensive price. Last time I talked to Tom on the phone, he said that his goal was to offer an all American made amplifier, at a price that is tempting to try for the average consumer. I highly recommend Class D Audio for any speakers that need or like gobs of power, especially low impedance and historically hard to drive units. As with any amplifier, not all amplification pairs well with all speakers. However, Tom's SDS-440C paired extremely well with everything but the most sensitive horn speakers. If you want a project to go with your Class D Audio listening experience, remember that Tom also sells all of him

amplifiers in kit form, which is how he got his start. The progression of products from Class D Audio over the last few years is very impressive, and I have it on good authority to keep an eye out for some new products that go beyond class D amplification.

Manufacturer's Reply:

We have made recent adjustments to bring more refinement to the amps. They actually sound more powerful than ever now. The amplifiers can easily be adjusted for super-high efficiency speakers, but in my opinion, if we make this adjustment to all amps, it might make the sound more like other class D amps on the market, meaning the sound would be a little flat compared to the exciting, lively sound and dynamics our amplifiers are capable of. This is a little hard for me to explain, but is reference to all of the reviews we get from around the world regarding the excellent sonic qualities of our amplifiers compared to other, including class d, amplifiers available today. For this reason I will choose to make these adjustments to those that are using high-efficiency or other sensitive speaker systems; and of course, free of charge.

Thanks,

Tom

Review Components

Carver ALIII Speakers

KRK KROK Monitors

Polk LSi15 Speakers

Grant Fidelity W30 Integrated Amp

Luminous Audio Axiom II Preamp

Squeezebox Touch

PC Music Server with lossless files

COMPUTER
Audiophile

Musiland 01 US/USB DAC

By Dan Nielsen

dannielsen@affordableaudio.org

Specifications:

High Speed USB Connection
 Independent APU MU6010 for 24 bit/192kHz audio processing
 Optical toslink digital output
 Stereo RCA, 3.5mm headphone analog output
 PLUSE high quality digital power management
 Support 24bit/192kHz digital output
 Specialized ASIO driver - support Windows XP, Windows Vista and Windows 7
 Aluminum alloy chassis for minimum interference
 Interface: USB 2.0
 Maximum sampling rate: 24bit/192kHz
 Digital output: Optical toslink
 Analog output: Stereo RCA, 3.5mm headphone
 Digital S/N: 140dB (A-weighted)
 Digital dynamic range: 140dB (A-weighted)
 Distributor: Gateshop on Amazon.com
 Price: \$75.99



Budget USB-powered outboard DAC's seem to be coming all the rage. At a recent meeting with a client at a coffee shop in a rather bohemian-style section of Portland, Oregon I counted four people using such devices. Even before then I would spot one among all the customers using smart phones for personal music. The size of these units goes from that of a memory stick, to the size of a deck of cards. The Musiland 01 US/USB is equal to the latter.

Housed in an metallic metal casing that is rounded along one edge, the Musiland 01 US/USB is a rather easy to distinguish when digging it out of a backpack, or carry bag, the right side edges are a bit sharp, so be careful if you plan on carrying it in your pants pocket. On one short side is the single input choice of USB; an optical output also is found. The opposing side holds the RCA outputs as well as the mini-headphone jack. Volume is controlled via your computer.

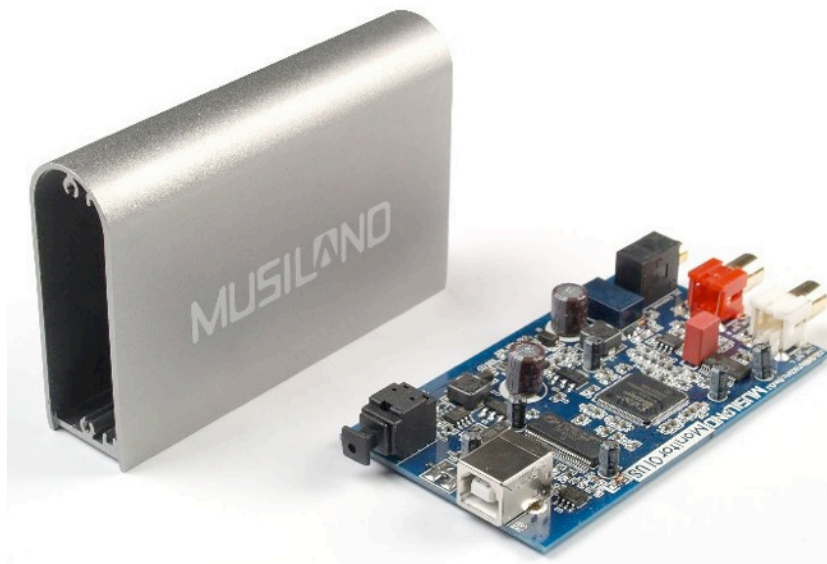
Cracking open the case involves the use of a micro hex style screwdriver, then sliding out the board by gripping the top and bottom sides. The Musiland 01 US/USB board has a nice, clean layout. No solder dribbles and all chips and components were securely in place. The RCA jacks had no give when plugging in the interconnects.

It's important to note that this model is a Windows-only device as purchased. I would bet that some savvy programmer type has created a Macintosh driver, but it's up to you to discover it. Installing the Windows software was straightforward enough for this reviewer on a generic tower running Windows Vista; however, others have reported on various forums that sometimes it takes a few tries. Important to note is that the software provided works differently than typical DAC drivers in this price range. Instead of allowing the DAC to have music "pushed" to it, this software goes and "pulls" the music out, known as asynchronous conversion. The benefit is the DAC gets info at a speed it can process it at, instead of it lagging or having the buffer operating at sub optimum rate.

Listening

The Musiland 01 US/USB is capable of playing up to 24/192 digital files via the APU MU6010chipset and PCM 1793 DAC. Musiland claims an A-weighted signal to noise ratio of 140db. I will say that this unit was not as quiet to my ears as the Audioengine DAC1 that I reviewed in issue 62 that was listed at 110db.

Once operational the Musiland 01 US/USB does provide an improvement over the straight output from the computer.



More detail is fleshed out from the digital stream. Carly Simon's "The Right Thing To Do", the piano notes have a stronger strike to them with the DAC in place. The chorus later in the same track details a greater separation between Simon and the background singers. The guitar picks that open the song "Anticipation" had more depth to them via the Musiland 01 US/USB. Farther into the song the tambourine shimmer loses its tinny edge. Once again this DAC takes the first step in improving the listening experience.

Much the same improvement can be found listening to Alan Parsons Project album *Pyramid*. The opening track "Voyager" combines synthesizer with brush on cymbals and drumstick on snare rim. All three are a

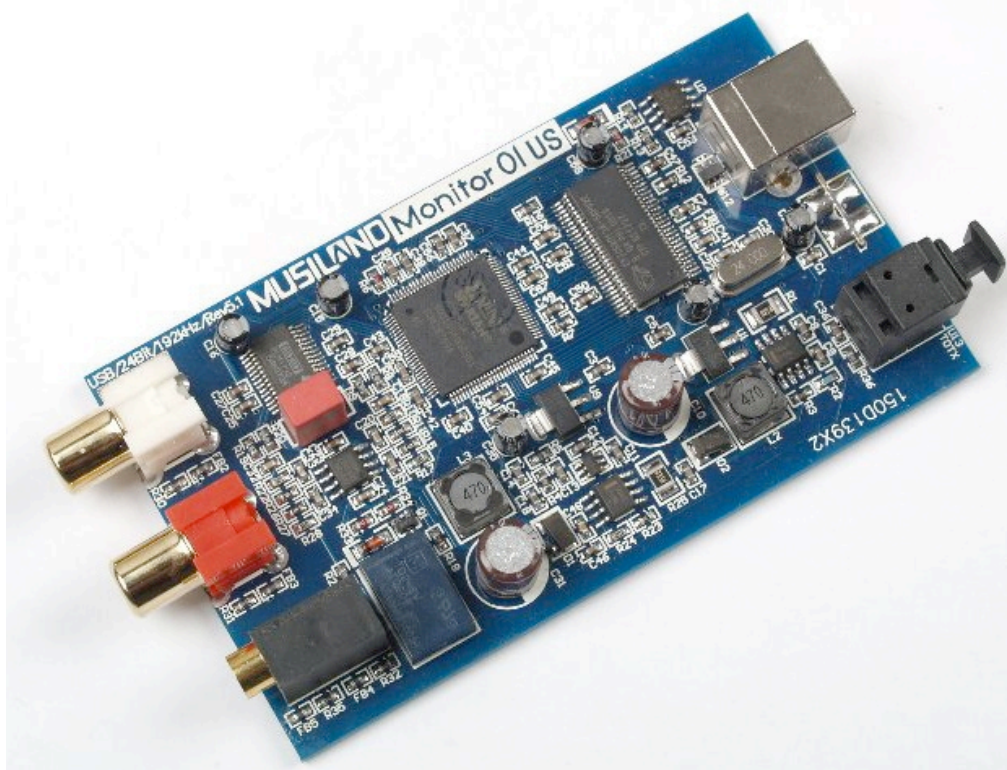
bit grating together even with the Sennheiser HD650 headphones coming directly out of the computer's audio out. With the Musiland 01 US/USB the results are a step up from the built-in audio output. Bass punch in "What Goes Up..." gains a bit of tightness, though compared to the Audioengine D1 at an additional \$100 still fails short. But once again, over the audio output jack, it's a welcome improvement.

Most of the music we hear comes from the midrange and the Musiland 01 US/USB consistently improves the listening experience. The saxophone from *Pyramid*'s "One More River" adds in additional detail and gives the instrument some sense of detail. The vocals in "Pyramania" as well as the tapping of the electric keyboard notes loses the harshness that makes one grateful for off-board DAC's.

Playing the small collection of 24/192 files, once again the improvement is noticeable, but if one has money for purchasing such files, it's only fair that the individual has the necessary funds to purchase a portable DAC a few notches up the performance scale.

Final Thoughts

As the review process went on I listened to both a variety of jazz and symphonic music. Much like with both Simon's and Parson's work there was definite step up from the standard audio output. Will it make me put my Cambridge Audio DACMagic up for sale on Audiogon? Nope, but as a sub \$75 starting point for improving computer audio reproduction on Windows-based computers it's a definite option. Now, if Musiland would just develop a driver for Macintosh owners.



Kevin Gordon: Gloryland

by Anthony Thompson

anthonythompson@affordableaudio.org

What do you do if you have an album pretty much finished but no record deal and no real desire to get one? Well one answer is to do what Kevin Gordon has done, which is to ask his fans if they would help with the funding. For \$5 you could get an advance track download or for \$10 an advance download of the album with bonus track and if you were really keen for \$2,500 you could, with a host of other things, have a band house concert within 500 mile radius of Nashville! So did it work? A\$\$A asked Gordon how it had gone. “I ended up with about 135 sponsors; most contributions were \$25 – 100, though I did have a few larger amounts come in that helped push the total above my original goal of \$10k, to about \$13k”. But even that, as he points out, is a ridiculously small amount to market and release an album on a national level in the US. However, it was enough for him to pay for the CD manufacturing, hire a publicist and radio promoter.



So are the fans likely to be pleased with the outcome? The short answer should be yes, very pleased. There are a number of poignant messages running through many of the songs. For example, the album opens with “Gloryland”, dealing with the misuse of power and trust to encourage the believer that they will get closer to “gloryland”. Gordon is also an excellent storyteller as on



“Colfax/Step In Time” where he describes being in a marching band and his crush on the unattainable Valerie, but there is often a dark side as well, as the marching band, with its black band leader, march into a group of Ku Klux Klan; and nowhere is that dark side more evident than on “Side of the Road”, which conjures up the memory of stopping by the side of the road with his mother to touch the ball cotton in the field and then moves to the road side risk of the Baghdad to Basra supply line.

Musically, Gordon’s straightforward, southern rock (think late 80’s/early 90’s Tom Petty), works well with the stories he is telling, and vocally there are sometimes similarities to early Dylan, at others to Elvis Costello.

Gordon has delivered an excellent album with the support of his fans, some of whom have really dug deep to fund it. As Gordon says, “To have a guy walk up to you at a show, hand you a cheque for \$500 and say he’s been working extra shifts at the factory to come up with that money ... I’m speechless and eternally grateful”. However, I’m sure that that benefactor, now that he has heard the album, will feel those extra shifts were definitely worth it.

Wayne Shorter, *Night Dreamer***Music Matters Jazz Reissue of Blue Note BST 84173****45rpm 180 gram Double Vinyl LP (Test Pressing MM BST-84173)****By Peter D'Amario**peterdamario@affordableaudio.org**No nightmare here...**

New Jersey native Wayne Shorter already had a significant track record when he released *Night Dreamer*, having played as one of Art Blakey's Jazz Messengers since 1959 (he eventually rose to become the music director for the group). Shorter is widely considered to be one of the greatest jazz composers, and in fact he composed all of the six cuts on the album. He perceived the record to be as a bit of a change from what had gone before, and in it he sought to channel a series of simpler compositions.



Night Dreamer (1964) is Shorter's first release (of an eventual nine) on Blue Note, and was recorded in one go at Rudy Van Gelder's Hackensack Studio on April 29 of that year. In addition to his tenor sax, the group featured an all-star team of Lee Morgan on trumpet, McCoy Tyner on Piano, Reggie Workman on bass and Elvin Jones on drums.

The album kicks off with the title track, a rollicking tune with a strong melody and which provides Tyner with an opportunity, right at the start, to strut his stuff (which he does, to excellent effect). The piece also highlights Morgan's trumpet and, of course, Shorter's tenor. It's a tune that is stretched luxuriously over the entire first side of this 45rpm LP, and I only wish that it continued beyond its almost eight minute length. The mood shifts to a laid back groove for the second track, "Oriental Folk Song", and the focus rests largely on Morgan's trumpet (and a nice piece of Elvin Jones's drums) over the phenomenal rhythm section.

The mood becomes even more laid back on "Virgo" (apparently Shorter's birth sign) with Shorter taking a lead role on this tune, a classic improvisation that highlights the quality of Van Gelder's recording, but changes for the upbeat when the group launches into "Black Nile", a free-flowing track with solos fluidly alternating between Shorter, Morgan, Tyner and Jones. The piano- and sax-centric "Charcoal Blues" follows before the album is capped by Shorter's "Armageddon" which he viewed as the key cut from the album (my preference is for "Night Dreamer" ...*de gustibus non est disputandum*).

As always, the Music Matters vinyl is flat, shiny and dead quiet. In fact, my test pressing was CD-quiet...had all vinyl sounded like this I wonder if the CD would have been the success that it was. The stereo sound is impactful, as befits this hard bop album. My test pressing came to the party incognito, but experience with the other 80 or so Blue Note reissues suggests that the owner will enjoy the usual beautifully-produced gatefold jacket, complete with gorgeous artwork and photographs and sturdy plastic inner sleeves. Opening a Music Matters box provides the best sort of anticipation.

Night Dreamer is a must-listen: Virtuoso playing of superb compositions.

System Used for Review

VPI Classic 2 turntable with SDS power supply, Benz-Micro Glider SL cartridge, Musical Surroundings NovaPhonomena phono preamplifier Vienna Acoustics Haydn Grand SE speakers, McIntosh C712 preamplifier, Yamaha MX-D1 stereo power amplifier Sony XDR-F1HD tuner, Shanling SCD-T200 SACD player, Logitech Squeezebox Touch Streamer, Cambridge Audio DAC Magic Mapleshade speaker wire, Blue Jeans speaker cable and interconnects, Ultimate Cables, AudioQuest, ProSolutions and AR interconnects

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From the Pulpit

By Stew Nelles

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Of Carroll Shelby, phono cartridge loading, and my budget reference system...

Firstly, regarding Carroll Shelby: For those that may not know, Mr. Shelby passed away on May 10 (a day I will always remember as it is my birthday). Rather than try to sum up his life in a single page (which would be impossible to do), I just thought that I would draw attention to this fact and to my own limited exposure to his company and foundation.

The only personal link I had with Mr Shelby or his organization was through Mark Logan of Shelby Cobras Northwest (and Nevada Classics) and John Luft (president of Shelby American). At the time, my initial contact had been with Shelby American regarding a friend who was looking at various “kit cars”. I tried to suggest that a Cobra from Shelby's continuation series would be an investment (not trying to “slag” the makers of kit cars, but the Shelby would have a genuine Shelby serial number and would be eligible for inclusion in the Shelby cars registry) that he could enjoy driving and that would retain value as a genuine Shelby. My email was promptly followed up by a phone call from Mr. John Luft, who advanced my name and number to Mark Logan (who promptly called later the same day). My friend chose a kit type car, but in hindsight I believe he has rethought the whole thing and realized that despite the cost disparity he would have been better off taking my advice. The kit-car sits incomplete 2 years on and is a source of frustration for my friend. At a later date I had an occasion to call Mark as a different well-healed friend asked me to help him locate a rare muscle car (a Superbird).

Mark helped out as much as he could given the very strict demands of the search. Unfortunately, (again) this friend ended up not purchasing the car that was located, but has since bought a rarer-yet version of the 'bird. Both men showed me and my friends nothing but professionalism and the utmost in customer relations. This no doubt was led “from the top” and for this I think I can make a generalized statement regarding Mr. Shelby and his commitment to his cars, his name and his values. His model of customer service could well be adopted by any company wanting to genuinely service their customers (or potential customers) in a non-condescending, true-to-their word manner.

Mr. Shelby was (in my humble estimation) what most automotive heroes should be: an upright, outstanding member of the automotive community, a true automotive and hot rodding innovator and a member of the world community beyond his enterprise fields of endeavour. Simply one of the automotive icons. Successful in both racing (personally) and in business with Shelby International, Ford, and Chrysler (for a few years). I suggest that if people would like to know something about this man, his cars and his life seek out a good book. I have but one book about him which was from Petersen Publishing which was published close to 26 years ago as a “specialty publication” (John Christy and Dave Friedman, *Carroll Shelby's Racing Cobra: A Retrospective Look at the Real Facts Behind the Cobra Legend*, Petersen, 1986, First Edition. soft cover. First printing. 218 pp. magazine format. *Now worth some money as this version is quite rare, but it will never be for sale*). At a time where everything happens in the automotive world for a reason, the likelihood of single individuals having the kind of impact on the performance world as Mr. Shelby did is essentially zero. As a member of the world community, Mr. Shelby established the [Carroll Shelby Foundation](#) which has helped provide financial support to countless children suffering from life-threatening illnesses and organizations that provide medical assistance, scholarships in automotive education, and educational programs in automotive and related fields. Please click the link to make a donation to this worthy charity, however big or small. I for one will miss Mr. Shelby in the same way that I miss David E. Davis (automotive journalist), and L.J.K. Setright (automotive and hi-fi journalist).



And now back to audio...

On phono cartridge loading: As I begin to delve deeper into my interest in analog playback one thing that has always eluded me is the idea of proper cartridge loading. Many sources don't or haven't covered this adequately or drawn attention to this.

Before I start any explanation I need to point out what parallel connections are and what series connections are, and how to calculate resistance and capacitance in both cases. Series connections are things that are connected like this:



Fig1, series connection

Parallel connections are things that are connected like this:

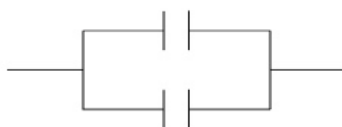
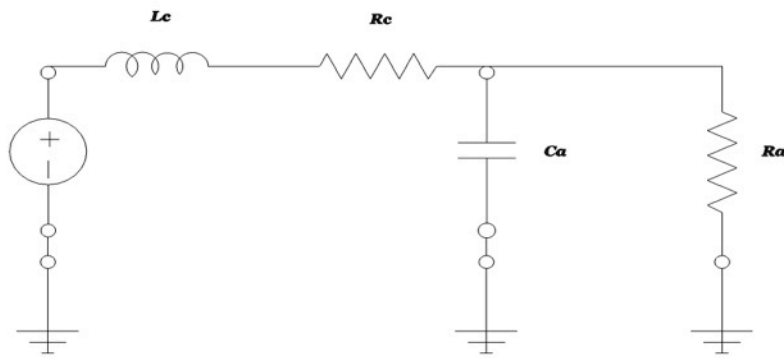


Fig 2, parallel connection

Table 1, comparison of series and parallel connections for resistors and capacitors

	resistors	capacitors
Connection type		
Series	$R_{\text{tot}} := R_1 + R_2 + \dots$	$1/C_{\text{tot}} := 1/C_1 + 1/C_2 + \dots$
Parallel	$1/C_{\text{tot}} := 1/C_1 + 1/C_2 + \dots$	$C_{\text{tot}} := C_1 + C_2 + \dots$

Most manufacturers of yore that made electronics included a phono stage built into their products. Many had inputs for both a moving magnet (MM) and moving coil (MC) and a switch to allow the selection of either at the input. So a 25 year old (or older) piece, regardless if an integrated amplifier, a receiver or a full featured pre-amp included one. Depending on the type of electronics and the manufacturer, the quality of these included phono stages ranged from exceptional. The original Audiolab 8000A integrated amplifier had a great phono stage that included both—the MC stage was particularly good as it was both very good sounding and quiet. Taken in the context of an integrated amplifier phono stages ranged from the truly excellent to the truly atrocious (pick your poison here). Many times there were no options for cartridge loading, whether internally or externally, so you made do with what was provided. There were a few makers of bespoke phono stages as early or earlier than the 1970's, such as PS Audio III that allowed for some adjustments externally through the use of front mounted switches and a MC/MM switch mounted on the rear of the unit. Most pieces today do not include any phono stage, whether a integrated amp, pre-amp, or receiver. This has been a result of the “digital revolution” and “perfect sound forever”. Now, if you need a phono stage you buy one, seek a vintage piece, or seek the relatively rare new piece with a built in phono stage.



Whether a MC or a MM cartridge, the complete impedance load and the capacitive load should be calculated including any wiring between the cartridge and the phono input. It is said that MM cartridges are not dominated by the inductance of a cable, and so are often just specified for a

Fig3: a typical cartridge loading scheme. L_c and R_c are the cable inductance and resistance. C_a and R_a are the amplifier capacitance and resistance (which more correctly should be impedance, not a simple resistance), adapted from Hagerman Technology, LCC (<http://www.hagtech.com/>)

particular resistance. MC cartridges on the other hand are sensitive to any loading, so capacitance, resistance and inductance should be considered.

...the non-technical approach

General rules for setting input impedance for MM cartridges: So you select the input impedance that provides sound that is extended without sounding "screechy". I'm sure that most just use the 47k Ω if they offer no switching. That's a typical MM impedance load. Obviously the old PS III has only two possible choices, but with a little ingenuity, and a little simple math a range of 5 or 10 values could easily be constructed and wired onto a small board with a DIP switch. In this case a resistive load can be made with resistors being connected in series and individually switched in or out of the loading circuit.

General rules for setting the input impedance for MC cartridges: This is the internal impedance of the cartridge multiplied by a factor of 10 (as a starting point). Adjust up or down as required. If capacitance is too high, it'll get screechy; if too low, it will be dull sounding. Just as above with a little thought, a multiple step impedance load can be created. In this case a group of capacitors that are connected in parallel, that can each be switched in and out of the circuit can allow for most adjustments.

My present approach (the no math method):

My old PS Audio III phono stage has the following loading options:

- ⤴ 47k Ω
- ⤴ 22 k Ω
- ⤴ 50 pF
- ⤴ 150 pF
- ⤴ 300 pF

I like Grado cartridges a lot. They have what I feel is a balance somewhere between the "delicacy" of a moving coil and the ability to track well combined with bass extension and body of a moving magnet. I've never been particularly thrilled with the "soundstaging" of the Grados, but I think the fundamental requirement is to provide accurate

tonality, and then the PRAT (Pace, Rhythm, *Attack* and Timing), soundstaging is what I consider a bonus, and to some extent my system does provide that but not on a grand scale. *I usually just use the 22 kΩ and 50 pF settings*, because to my ears this sounds best given my choices. Even though Grado cartridges are not particular about the resistive or capacitive loading, I will explore this further by creating some sort of further external loading via RCA jacks, so that this can be done quickly from outside of the phono-stage's enclosure. Grado, suggests that their moving iron type cartridges are not particularly sensitive to resistive or capacitive loading. But that I'll leave for some further personal exploration.

The technical approach with example calculations:

I'll do these examples next time so that I can ensure the accuracy and the results versus reality.

For further information regarding cartridge loading (and some good visuals and rules of thumb) see:

- ⤴ Load the Magnets!!! from tnt-audio.com, written by Werner Ogiers
- ⤴ Cartridge Loading from Hagerman Technology by Jim Hagerman

And now my promised budget reference system.

Since last writing, I have had some time to think about my budget reference system and my comments regarding the context of budget constraints. So here's my "budget reference system" for the bottom dwellers that could easily be put together by the average (but very frugal) enthusiast. The prices listed are the actual purchase price of the components that I have on hand and reflect the prices I paid via Ebay or other source (which are listed). Following the price paid I will indicate what these components (or a reasonable substitute) may cost currently on Ebay (in parentheses).

So here's the stuff in my budget reference system:

- ⤴ Receiver: Nakamichi SR-2 "Stasis" receiver \$60 including freight
- ⤴ dvd/cd player: Sony "Playstation PS1", \$10 from a local pawn shop
- ⤴ Compact disc player: Sony cdp-505ESd, \$10 from a local thrift store
- ⤴ SACD: a Toshiba cd/dvd/SACD player just in case I end up with some SACD software (free)
- ⤴ Loudspeakers: Sound Dynamics 50Ti bookshelf, \$10/pr from a local pawn shop
- ⤴ speaker stands: DIY wood type, free
- ⤴ KEF Reference 100 powered subwoofer (free) from a friend who swore it didn't work. I re-soldered a connection to ensure a good solder joint and it is perfectly functioning. This is so rarely used that it has become a stand for some of my wife's plants to sit on.
- ⤴ Sugden Connoisseur BD1 table re-plinthed on a bamboo chopping block CAD\$100 including the chopping block, feet, square aluminium tubing, DIY tonearm and wiring
- ⤴ Old used Grado cartridge (unknown model) \$0 as it was on hand. Unsure of the model but has a good stylus on it.
- ⤴ Moray James interconnects (free) from my good friend Moray Campbell
- ⤴ RCA flat speaker cable CAD\$5, from a local surplus outlet
- ⤴ 2 pairs of good banana connectors from a local surplus store, \$10
- ⤴ 7 shelf audio stand, needs some work. So free. A better rear frame work made of wood (not ship-board), some decent shelf supports, and some good quality casters (I know but I want the system to be easily moved from my office into my living-room) should do it. Perhaps \$30. It will never be as good as my Target welded stand is, but represents what a lot of people have for a stand.

And the grand total is...\$200 (pick a cd player, the DVD player or the Playstation)! So there you have it. The amount

spent does not reflect how enjoyable this system is.

The current Ebay equivalents are as follows (on the day I sought out rough equivalents):

- ⤴ Receiver: Yamaha CT-610? (\$80), similar power, generally well thought of
- ⤴ dvd/cd player: Sony "Playstation PS1" (\$15), an audio/video bargain
- ⤴ Compact disc player: Sony cdp-297 (\$25) only single Sony cd player I could see...
- ⤴ Loudspeakers: Mirage M90-is (\$100) very similar to the Sound Dynamics M50-Ti speakers from the same manufacturer (API at the time)
- ⤴ Speaker stands: Sanus 24"-42" Euro Foundations, (\$30), they look Okay
- ⤴ Subwoofer: Martin Logan Dynamo 300, 8" driver (\$168), if in good shape a great buy
- ⤴ Turntable: Dual 1218 (\$ 100), as above
- ⤴ Cartridge: Grado (\$ 60), 'cause I like Grado cartridges
- ⤴ Moray James interconnects (\$200), if it ain't broken...this amount may change, as Moray has yet to get back to me for minimal cabling for these systems.
- ⤴ Speaker cable: RCA flat (\$10?), didn't see any, but if I can find the stuff someplace, so can you
- ⤴ 2 pairs of good banana connectors : (\$10) many similar on the Interweb
- ⤴ 7 shelf audio stand (\$105)

In terms of similar items available on Ebay today (June 4/12) the total is \$643 (freight not included). You could subtract the \$25 for a separate cd player if you like, so \$618. I think this is about as low as one can go and get something quite satisfying sound-wise and to a high quality level. This system is suitable for 2.1 channel listening with AM/FM, compact disc, DVD movies, SACD and analog records. I invite all writers and readers to post their comments or their personal experiences regarding a system put together on a pauper's salary, and look forward to what other Affordable\$\$Audio writers put together for their reference system at their choice of financial involvement.



Obviously new systems will be much more expensive, and I might suggest that a system capable of this level of performance might cost someone in the neighbourhood of \$2500-\$3000. For a new "budget reference" system I might consider the following (at least

what I think might perform on-par with my budget reference system):

- ⤴ receiver/integrated amplifier (prefer with phono stage): Outlaw Audio receiver (includes MM phono stage)



\$700.

- ⤴ cd/dvd player: Pioneer DV-300i (if it's good enough for Goldmund to use as a base, good enough for me). It may need a little work, but... , current model is the DV-429-K MSRP, \$89 (unsure if fundamentally the same, but worth the risk).
- ⤴ turntable: Rega RP1, \$500 including cartridge.
- ⤴ loudspeakers: planet10-hifi CHR70eN drivers + professionally made enclosures for the same including finishing,

\$200 + \$320 (flatpack) + \$150 DIY finishing, ttl: minimum \$670, however Dave Dlugos of planet10-hifi has suggested different drivers and different enclosures, so I'll push it to \$900

- ⤴ subwoofer (optional): I've decided against one, completely as I usually never listen to one, but if needed budget at least \$400 for a decent 10" or 12" (maybe NHT?) or a great DIY one based on a good plate amp with a stereo cross-over and low level output.
- ⤴ interconnects/speaker cables: Moray James throughout, I'm allowing \$400, but good cables from any reputable cable company are required. At least one pair, and say a 10' pair of speaker cables.
- ⤴ 5 Shelf Ikea "Lack-rack", \$75 + \$10 for minor supplies/hardware

The total using these components and pricing is about \$3085 without any shipping or tax. I have never heard the Outlaw Audio RR2150 receiver, but it has always gotten good reviews (including one in Affordable\$\$Audio, Jan 2006) and seems like a reasonable piece with sufficient quality and the ability to drive many loudspeaker types. Also rather than use the included cartridge with the RP1, you could consider something else (say a Grado, my fave) for around \$100. And if the amplifier that you chose doesn't come with a phono stage, you can do a lot worse than the

Hagertech Bugle (\$189 built). The thing is, there are so many iterations possible, where do you end? I know there are other favourites out there, and I can list a few alternatives as well. If I wanted an outstanding (rather than merely excellent) integrated, I'd suggest the Exposure 2010S and the optional phono stage card (\$1495 + \$219) which has been around for a little while in one form or another. I am a sucker for integrated amps...



Next time I should have my "budget reference" system together in the Lack Rack (or whatever other rack I can get my hands on) and set up for listening. After that I plan on doing the DIY "thing" and see what improvements can be made for very little additional money. Until then, have some comfort knowing even if you don't have "big money" you can still have a BIG smile on your face as you enjoy your very own "budget reference" system. I know I will.

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