



### Gato Audio DIA-400 Review – posted on Audio Aficionado October 27, 2013

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**Danes seem to be a happy lot** as evidenced by the European Commission's 'Eurobarometer', an annual survey started in 1973 to find out about issues affecting its citizens. Member states report annually about the well-being and happiness of its citizens. Interestingly, the good folks of Denmark have topped the survey every year since its inception. The same positive outlook on life can also be attributed with the Danish approach to architecture, fashion, and design. Modern design is part of the Danes' daily life and national identity. This philosophy is clearly demonstrated in the beautifully finished Gato Audio DIA-400 integrated amplifier and extends in equal measure to all of Gato Audio's product line. The meticulously crafted curves of the new DIA-400 merely hint at its true capabilities. The smooth controls, distinctive display, substantial power reserve and efficient design exude a strong positive force on your emotions from first glance.

Gato Audio is committed to remaining at the cutting edge of technological innovation and their new integrated amplifiers are classic examples of this philosophy. Gato Audio is a relatively new company, less than eight years old, although the team goes back much farther encompassing internationally known Danish audio legends such as Rossing Electronics, Avance Loudspeakers, Holfi, Thule and GamuT. This group of talented developers helped resurrect GamuT to a successful high-end company. By the end of 2006 GamuT was once again a thriving business and its owner Poul Rossing was ready

for retirement. The sale and transition of GamuT's entire range of products transitioned to Frederik Johansen and Kresten Dinesen. Along with them, their network of talented developers took over to continue exploring fresh ideas and challenges that would later turn into Gato Audio. Today, Gato Audio's high-end audio components, stand mount and floor standing loudspeakers, plus their line of interconnects and speaker cables are enjoyed by audio enthusiast worldwide.

The Gato Audio DIA-400 integrated amplifier under review here is much more than just a lovely face with enviable curves. This new integrated amplifier incorporates a preamp, stereo power amp, and D/A converter. The balanced-drive Burr-Brown PCM 1794 DAC incorporates dual digital to analog converters supported by an independent power supply and the matching SRC 43921 upsampler provides 24bit/192kHz upsampling for the coaxial, optical, and asynchronous USB digital inputs. Analog inputs include two pairs of unbalanced and one pair of balanced stereo connectors. In addition there is a Direct function that enables integration of the Gato DIA-400 into a home theater system and a 12 volt trigger output. The amplifier's output stages are state of the art Class D amplifiers with optimized switch mode power supplies that incorporate a precision high frequency oscillator and pulse-width modulator (PWM). High frequency switching is performed by a pair of precision MOS-FET transistors and the output filters are made from high quality polypropylene capacitors and low direct current resistance (DCR) coils, converting the high power PWM signals back into detailed and smooth analog music. This modern Class D design, built on modified Pascal M-PRO modules, deliver extremely high efficiency, enormous power, huge voltage swing, and good damping factor. This fine engineering comes together to provide effortless dynamic headroom with smooth wide frequency response without clipping. The Gato Audio DIA-400 outputs 2 x 400W@8ohm / 2 x 800W@4ohm. Thanks to the Class D output stage this integrated amplifier operates cool with no need for a noisy fan or large protruding cooling fins. The beautifully shaped non-magnetic enclosure efficiently transfers heat and provides all necessary cooling.



The DIA-400 review sample arrived brand new in its factory sealed double boxes, well protected and cradled by fitted foam packing material. Included is the factory supplied power cord, Windows USB driver CD, remote control with CR2032 battery, an owner's manual and two full color glossy folders displaying Gato Audio's other fine products. The DIA-400 weighs just over 29 pounds and barely 35 pounds in its shipping cartons. It was easy to handle and unpack, especially considering the shoulder wrenching, back breaking audio behemoths I have wrestled in the past. What I would soon discover is physical size and weight can be very deceiving.

Setting up the DIA-400 was straight forward and took less than fifteen minutes. I used the factory supplied power cord throughout this review since the manual made it clear to use only the provided power cord. I am certain I could use a premium grade power cable in the standard 15 amp IEC connector but since the amplifier was graciously loaned for this review I felt obligated to follow the instructions to the letter. Whether or not any performance enhancements can be gained from a Wireworld, Furutech, Shunyata, Analysis, or other power cable is something that will be discovered by others. I used a Wireworld Silver Starlight digital coaxial cable to connect the Olive 04HD music server to the Gato's coaxial digital input. I used a pair of Wireworld Silver Eclipse balanced interconnects to connect the Esoteric K-03's analog outputs to the DIA-400's balanced inputs. The Sonus faber Amati Anniversario speakers were connected using Wireworld Silver Eclipse speaker cables.

Even though the Gato DIA-400 was brand new I made the decision to listen to it at least three hours a day during the 24/7 break-in period I intended to put it through. The plan was for a minimum of 50 hours break-in before attempting any critical listening and a full 100 hours before the final review was penned. Right out of the box and set up I powered up the DIA-400, let it warm for about ten minutes and began spinning discs. From the first notes I was impressed with the sonic signature, although my ears were telling me the organic nature of the music was a bit sterile, not in the sense of no depth or texture, more like an absence of organic essence, that special embodied texture that reflects live musical sounds. I decided to let the amplifier continue playing overnight and return to listening the next morning. I set the Esoteric K-03 on "repeat disc", left the DIA-400 volume set to 40 and closed the studio door. Returning 15 hours later things were showing signs of improvement. There was an enhancement in the interwoven elements of the sound, a more focused presentation with additional depth in the sound stage. I continued to listen for the next couple of hours, but I still had the notion more break-in time would deliver even better performance. I kept the K-03's repeat function turned on and once again closed the studio door and left the amplifier to play on its own. At nearly midnight, with 12 additional hours on the Gato amp, I returned for more listening. The DIA-400 now had approximately 30 hours on it and was beginning to live up to my expectations of what a high-end audio component should sound like. The air around instruments had grown, in turn helping develop a wider, deeper, and more localized sound stage. My initial impression of the sound being a bit sterile was erased, replaced with the beginning of a stimulating emotional connection that is only present for me when voices and musical instruments sound holistic, demonstrating a breath of vibrant life. There was a growing warmth and fullness that began to reach out to me. When reproduced music begins to affect me emotionally in a positive way something good is definitely taking place. What was initially lacking had largely disappeared. In its place was a composite of musical elements that captured my attention and engaged me. I spent the next three hours of the early morning listening intently without a hint of fatigue. By 2:30 in the morning my energy was fading so I allowed the Esoteric K-03's repeat function to take over once again and retired to bed. With my head on the pillow, my thoughts were centered on how much I was beginning to enjoy this new integrated amplifier.



At 50 hours of break-in I started to feel like I could begin a faithful audition, but made the decision to continue the break-in period. The Gato Audio DIA-400 was blossoming, presenting a performance level I believe any audio enthusiast would find captivating. The dynamics of the DIA-400 are astonishingly quick. The frequency response is wide and effortless. The bass is robust and firm even at low volume. The background noise level is absolute black. The silence feels infinite. Music simply flows from a vast chasm of complete silence. This type of quiet encourages you to focus deep into a performance without missing any subtle ambient cues that might otherwise be masked. I embrace this absence of noise in audio gear. In fact, I expect ultra-black silence. Anything less would be substandard.

What I discovered after 100 hours of break-in was an integrated amplifier with sufficient worth and importance to enlist only high quality source components and premium loudspeakers. The Gato DIA-400 is sufficiently resolving to allow perceptive listeners a clear impression of the delicate differences and nuances between premium sources. For years I have been an audio enthusiast who prefers separate components, preamp, mono-block power amps, etc. The Gato DIA-400 is the first reasonably priced integrated amplifier I have experienced that shifts my perception of how high quality music can be achieved in a home sound system.

Listening to Lee Ritenour – Rhythm Sessions, “L.A. By Bike” was a sonic treat. The 24Bit/96kHz high-res download sounded open, clear, and full of energy. The depth and strength of the bass and the dynamic impact of the drums were noteworthy in every respect. Lee’s guitar floated center stage with the Hammond B3 slightly behind. Cymbals had a crystal clear metallic shimmer, not harsh in the least, just crisp and exciting. The leading edge guitar string sounds had just the right touch of bite when that was Lee’s intent. This recording was played using the Olive 04HD music server feeding the Gato DIA-400 internal DAC via its coaxial input. The Burr-Brown D/A converter is resolving

and detailed. I cued up Lee Ritenour – Wes Bound, “4 On 6” on the Olive 04HD and put the same Lee Ritenour - Wes Bound CD in the Esoteric K-03’s tray. The Gato remote allows direct access to the different inputs so I was able to start the same recording in both the server and the CD player simultaneously. This allowed me to make direct A/B comparisons of the analog output from the Esoteric K-03’s DAC’s with the digital output from the Olive 04HD through the DAC in the DIA-400. The dual channel Burr-Brown PCM 1794 DAC performed admirably in direct comparison to the K-03’s multiple AKM 4399 DAC’s. There was a greater sense of air around instruments, a tighter firmness to the bass and a deeper sound stage coming from the Esoteric K-03 but the DIA-400 was not left in the dust by any stretch of the imagination. The integrated amplifier presented and accurately reproduced the differences from both the analog and digital input signals. This speaks well of the DIA-400’s ability to clearly resolve any source signal. The opening bass notes and light cymbal taps during the opening of Lee Ritenour’s “4 On 6” were presented in a stimulating fashion from both inputs. I found my toe tapping no matter which input I selected. The Burr-Brown PCM 1794 is a high quality DAC and Gato’s implementation of an independent DAC power supply no doubt aids in its excellent performance. I never sensed any urgency to shift inputs when listening to the Gato’s DAC. The performance is solid.

Listening to the Yellowjackets – A Rise In The Road, “When The Lady Dances” from the Olive 04HD through the DIA-400’s DAC was very good. The ultra-fast dynamics revealed the drums and cymbals in an attractive spotlight. The saxophone, trumpet, piano and bass exhibited realistic tone, timbre and space with competently defined sustained and diminishing notes. There was no hint of the individual instrument’s becoming homogenized into a mass of unrecognizable sound. The performance was involving enough for me to let the Yellowjackets CD play on. I was equally impressed with the very well rendered piano, bass, and clean brassy trumpet on “An Amber Shade of Blue”. The Gato’s Burr-Brown D/A converter is remarkable in its ability to effortlessly reproduce the rich metallic timbre of horns, the striking dynamics of a well stacked drum kit, all while faithfully reproducing the ambient cues of a club performance.

There is a lot to like about the DIA-400 integrated amplifier. The Scandinavian design influence is extremely unique without being overdone. To my eyes the appearance is elegant. There are three finishes available for the top cover, high glass black, high gloss white, and high gloss walnut veneer. This amp has the high gloss walnut veneer top. The deep walnut color and natural warmth of wood presents an impressive contrast with the unique aluminum enclosure. The fit and finish of the Gato integrated amplifier exemplifies first class craftsmanship. The large center positioned volume control, a chip-based resistor matrix mechanical encoder, is silky smooth and silent, and should remain so for a lifetime. Another plus, the Gato Audio DIA-400 is visually appealing and sexy. I would expect a high degree of acceptance and appreciation from women strictly on its appearance. This integrated amplifier will seem right at home prominently displayed in any room without diminishing the interior decorator’s contribution to a harmonious and comfortable living space.

The DIA-400’s white dot matrix LED display is high contrast and easily read from across the room. The LED display also offers some interesting and ingenious features. When raising or lowering the volume, the numbers representing the volume level scroll in an animated fashion up or down toward the top or bottom of the display depending on which way you are turning the volume knob. The right side of the display shows the selected input and this display also scrolls as new inputs are selected. In addition, when you select a digital input the display shows that input for a few seconds then changes to display the sampling frequency. The input display sequence can be reversed if you like so that the sampling frequency is momentarily displayed and then the selected input appears a few seconds later. The display can be dimmed from the remote and from a small button on the rear of the amplifier so that only a single white LED dot is seen on each side of the display. In dimmed mode



the display momentarily lights up for three seconds when changing volume or input, showing the present settings then reverting back to dimmed mode. The remote control is noteworthy as well. It is thin, approximately 3/8 of an inch (9.5mm) thick, using a CR2032 button battery for power instead of the more traditional AAA and AA battery configuration found on more cumbersome remotes. The remote has an aluminum frame with a plastic back to protect any surface it may be placed upon. The remote control is not backlit but the minimalist approach to buttons and their specific locations make it intuitive to use by touch even in the dark. One other useful feature, the DIA-400 remembers your last volume setting when turned off and returns that setting automatically when it is powered back on, but that's not all. In the event that you inadvertently leave the volume set to a level above 50 when the amp is powered off it will automatically reduce the volume to 50 when powered back on. That's a good idea and a modern design touch.

If I had to pick on any single aspect of this amplifier, it has to be the placement of the speaker terminals being so close to and on top of the digital inputs and analog output connections. My Wireworld Silver Eclipse speaker cables are terminated with large insulated spades. I first installed them from the bottom up on the speaker terminals but had to change the orientation to top down because the insulated section of the spades blocked the inputs and outputs located below. I could have tried inserting them from the left and right sides of the terminal posts but the spade terminal physical size would have had them touching and creating a short circuit. I wasn't going to chance that. If banana plug speaker wire terminals are used, there will be no issue. My spade terminals presented a problem when trying to plug in a digital cable or use the RCA or balanced output connections. This isn't a huge deal and I was able to overcome the situation by relocating the spades to the top of the speaker terminal posts, but this arrangement made the speaker cables visible over the rear of the amplifier. The DIA-400 rear panel is relatively compact to begin with so banana plug speaker terminations are recommended.



Now for the big question, how does the Gato DIA-400 Class D amplifier sound compared to my reference preamp and Class AB tube mono-block amps at approximately 15 percent of their cost? Surprisingly, the DIA-400 delivers a big helping of astonishingly clean resolution with a presentation that is clearly in the solid state camp. Transient speed and fast powerful bass is instantaneous, but the big tube amps deliver an additional measure of organic texture in voices and string instruments rarely equaled by solid state amplifiers. There is a liquidity to the midrange of a premium tube amplifier that, in my opinion, cannot be duplicated with solid state gear. This may be an inherent bias, but I also own and enjoy a pair of 600 watt solid state Class AB mono-blocks so you might say I have a foot in both camps. None the less, the Gato Audio DIA-400 stands up admirably by comparison while delivering a believable, dynamic, tonally accurate musical performance irrespective of the music genre. Every amplifier has its own sonic signature no matter who manufactures it or what the circuit topology might represent. Put simply, the DIA-400 sounds terrific. Each day I found myself looking forward to listening to it and I have enjoyed it tremendously while installed in my studio sound system. That speaks volumes about my opinion of this well built, beautifully designed integrated amplifier. The real measure of any amp's value for me is whether I am drawn into the music or left contemplating the equipment. With the Gato DIA-400 I spent my time enjoying the music. It's as simple as that. Oh, and it operates cool as a cucumber. After hours of listening at volume levels ranging between 36 and 62, the integrated amp never got warmer than slightly above body temperature, barely warm to the touch. Don't be misled by its compact size and weight, either. This amplifier is no shrinking violet. Like I said in the beginning, the DIA-400 size and weight can be very deceiving. There is a volcano of power on tap at all times. This integrated amp can run with the big dogs.



There is a lot to like about the Gato Audio DIA-400 integrated amplifier. If you have a chance to audition it, don't pass up the opportunity. Be ready for an attitude adjustment. This rock solid integrated amp is a genuine high-end audio component that delivers impressive, super clean, full spectrum sound. With an MSRP of \$6000.00 this newest offering from Gato Audio might easily be considered a dragon slayer. This sweet integrated amplifier with DAC reminds me of the old adage good things come in small packages. When referring to the Gato Audio DIA-400 this is certainly true.

