

the absolute sound

OVER THE MOON

Aesthetix Mimas Integrated Hybrid Amplifier

"For me, the Aesthetix Mimas is the very definition of what I am seeking today in an integrated amplifier—unalloyed transparency and musicality served up with rich reserves of power."

-Neil Gader



Electronics Focus



Aesthetix Mimas Integrated Amplifier

No Reservations

Neil Gader

Aesthetix Audio Corporation is the Southern California-based high-end electronics company revered for its bespoke tube and tube/hybrid electronics, many of which have been reviewed in these pages. Built to uncompromising standards, its components fall squarely into the elite “separates” camp. That is, dedicated stand-alone gear such as the company’s flagship Atlas amplifiers, Callisto and Calypso preamps, Io and Rhea phonostages, and digital components like Romulus and Pandora. So, what’s missing from this picture? Only one of the most popular and resurgent segments in recent years, the integrated amplifier. Aesthetix has not only remedied this in grand style with its very first integrated model, Mimas, but after spending a few months with this amp, I only have one remaining question: Why’d it take so long?

Mimas represents the newest member of the Aesthetix Saturn Series. It’s a dual-mono hybrid design. Power output is rated at 150Wpc into 8 ohms, both channels driven—a figure that nearly doubles into 4 ohms. Unlike the new generation of integrated amps that are often packed with digital connectivity—DACs, Wi-Fi, streaming/server options, and the like—Mimas is a straightforward lineage component. Which is not to say that Aesthetix is ignoring that segment or vinyl for that matter (a modular DAC card and modular phono card are in the works—see sidebar), but it also understands the culture and expectations of a purist enthusiast market.

Its preamp section employs one 6DJ8 (6922) vacuum tube per channel in a fully differential configuration. Gain circuitry is borrowed from the Calypso preamplifier and uses premium

Roederstein resistors from Germany, Reliable coupling capacitors from California, and a discrete solid-state current source. The amplifier section gleams much of its engineering and sophistication from the Atlas amplifier. The power section is fully discrete; that is, it’s built from separate transistors rather than from integrated circuits. The Class AB output stage is a fully differential, zero-feedback, DC-coupled, balanced-bridge design. The individual FET input transistors and bipolar output transistors are all carefully matched to ensure channel balance, linearity, and stability with any speaker load.

Visually the Mimas is pure Aesthetix. The heavy plate-aluminum enclosure is precision machined in nearby Santa Barbara and is in itself a thing of beauty, right down to the five trian-

gular aluminum front-panel pushbuttons that control display, mute, setup, standby, and input. Aluminum surfaces and detail are everywhere—clearly someone at Aesthetix has an allergy to plastic! The LED front-panel display automatically adjusts for changing ambient light, and indicates the selected input, while larger characters display volume. The actual front-panel volume control took me by surprise. Rather than a traditional knob, this clever controller is literally a part of the display lens—simply clicking the left or right edge of the display raises and lowers the volume accordingly. The front panel also houses a headphone output rated at one-third watt into 32 ohms. The output is automatically selected when a headphone jack is inserted, but headphones or speakers are also selectable should

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Specs & Pricing

Power output: 150Wpc into 8 ohms, 280Wpc into 4 ohms, both channels driven

Bandwidth at full power: 4Hz–150kHz

Inputs: Five RCA (unbalanced), five XLR (balanced)

Outputs: One RCA, one XLR

Dimensions: 17.9" x 5.5" x 17.75"

Weight: 44 lbs.

Price: \$7000 (add \$1250 each for DAC and phono options; \$500, headphone amp)

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the user prefer to leave the headphones plugged in. A standard-issue plastic remote control is included, but my review sample was equipped with the optional model—a luxurious, brushed-aluminum RC, fully featured and equipped with motion-sensing backlighting. Careful though: If you try this one, you're going to want to keep it.

The back panel is spacious with plenty of elbow room for speaker cables and interconnects of all sizes and terminations. Particularly convenient is the fact that the right/left speaker terminals are stationed at opposite corners, making hookup a breeze. Further, Aesthetix provides five inputs for both balanced XLR and unbalanced RCA interconnects on every analog input, a rarity in this price segment.

Mimas is also software-driven and laden with top-notch set-up and configuration options. All inputs are assignable; gain offset levels can be matched between sources; and in-

puts may be bypassed altogether. Headphones can be turned on or off in software. There are left/right balance adjustments, startup levels, maximum levels, and display settings.

Turning to performance, let me first say that today's mid- and upper-level integrated amps already conform to pretty high sonic standards. There is more consistency than divergence. That said, I found Mimas in its own way as distinctive as any integrated amp I've heard for quite a while. The amp was as quiet as a public library on Christmas Eve and established a black velvet noise floor so obviously free from electronic noise and debris that I needed to remind myself whether Mimas was even functioning in the system.

Its sonic character hints at midrange warmth and a sweetness in the treble, but that's not due to a rolling or rounded top end. The amp is as extended as it is ripe with bloom. When I cued up "All My Trials" from PP&M's *In*

the Wind, Mimas produced an overall clarity, naturalism, ease, and immersion that seemed to beckon me into the recording studio. Mimas didn't give me the sense that it was pushing music forward or backward, either. It merely expressed the landscape of the recording itself. During Dave Brubeck's classic "Take Five," the seated musicians simply owned their space, and music flowed with a communal energy and an airy ambience that filled every corner of the recording venue. The intimacy of musicians communicating in real time was as fully expressed as I've heard them on this LP. Mimas had an uncommon sensitivity with low-level delicacies, like the repetitive harp motifs during Vaughan Williams' *The Wasps* Overture [Reference Recordings]. Mimas permitted these cues not only to capture my attention but to play out completely and sustain cleanly, even as they gently decayed into the concert hall's ambience.

Bass response was as nimble as it was weighty, a little like a tap-dancing sumo wrestler. Kettle drums were thunderously impactful but maintained pitch without bloat. Each impact conveyed the tactile sense and flutter from the huge drumheads. And the amp never appeared to lose dynamic steam as the output ramped up. You might say that it shouldn't have given its prodigious power, but ratings, *schmatings*—it really ends up being your own seat-of-the-pants impression that means something. In my smaller listening environment, the Mimas conveyed effortless power and control.

Mimas did not sound like it was under the sway of tubes or solid-state, either. There were no obvious fingerprints or colorations, tonal dips or peaks, treble grit or grain, or faltering in the lower frequencies. Yet Mimas communicated sonic elements that are often but not exclusively ascribed to tubes—that inimitable sense of midrange liveliness, textural complexity, and harmonic bloom. I was particularly taken by the way it captured the complex and shifting voices of stringed instruments—from sweet to astringent—as they ascended and descended through their ranges, an impression that played out when listening to Perlman performing the zesty Bruch Violin Concerto No. 1, or the mournful decaying resonances from Martin Zeller's cello during the Bach Cello Suites. Orchestral images were rooted like oak trees within the soundspace and not prone to shift phantom-like outside an established position. The layering of strings, and the separation of winds, percussion, and brass sections remained rock-steady throughout.

I hadn't listened to the EMI LP box set of *The Art of Courthy Love*, directed by David Munrow and the Early Music Consort of London, in years and to be honest my earlier recollection of its sonics was one of disappointment. But what a revelation! Listening to medieval instruments such as crumhorns, lute, recorders, harp, and harpsicord (and a couple I cannot even pronounce), I hadn't expected the level of unique textures and odd timbres I was hearing. Countertenors James Bowman and Charles Brett Laden, their feet firmly planted

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on the famous parquet wood floors of Abbey Road's Studio One, simply sprang to life, the round and airy resonances of the singers' upper registers ringing with a clarity I didn't know was on the vinyl until that moment.

Perhaps key to Mimas' distinctive style was how it placed the musicians of an orchestra within the acoustic environment of the performance. I've often heard great "imaging" electronics, but such images were, for me at least, overly detached from their surroundings, as if the ambient and reverberant cues had been filtered away, leaving the images themselves re-focused within their own sterile and vacuumed framework.

This created a sensation of detachment. Mimas seemed to work in the other direction, first reasserting the prominence of the soundspace and then illuminating the musical images upon the backdrop of that environment. This impression was borne out across a variety of familiar, purely acoustic recordings like superb cellist Pieter Wispelwey performing Bruch's *Kol Nidrei*, Rutter's *Requiem*, the Beethoven Ninth Symphony with Solti conducting the CSO. Mimas established a continuity across the sound-space first, revealing the soundspace as a whole, rather than the fragmentary puzzle and patchwork that I'd so often heard in the past.

These particular examples seem to suggest that the virtues of the Mimas came into strongest relief when listening to acoustic music, classical, or jazz. Frankly, this was mostly true as the more acoustic and naturalistic the recording, the more the amp's charms were brought to the fore. Like all high-resolution electronics it rewards in accordance with the quality and complexity of the music being selected. However, Mimas reproduced all genres of pop music effectively too, from Def Leppard to Daft Punk, from pulse-laden dance music to the power ballads from 80s-era rock 'n' roll "hair bands." But it truly came into its own with full-spectrum music that was harmonically and dynamically uncompressed.

For armchair astronomers, Mimas is one of Saturn's moons. For me, it is the very definition of what I am seeking in an integrated amplifier—unalloyed transparency and musicality served up with rich reserves of power. I'm only guessing that Aesthetix's line of top-drawer separates will sonically edge out the Mimas in picayune areas, or that there are loudspeakers that will make demands beyond what Mimas can deliver. But then again, I doubt if any speaker can make this amp sound less musical than it most certainly is. It's an amp I can recommend with no reservations. Just another way of saying that I'm over the moon for Mimas.

Inside Mimas

In Aesthetix's own words, "overbuilt, advanced technology power supplies" have been a part of the company's DNA from the beginning. This is not merely idle talk. Aesthetix winds its own transformers for every model. Case in point, Mimas' 900VA low-flux power transformer, which incorporates five separate secondary windings, was designed and manufactured in-house. Mimas also features seven fully regulated power supplies. The high-current power supply is provided by a separate center-tapped transformer winding capable of 750VA and feeding 176,800uF of capacitance for a total energy storage of over 110 Joules. The high-voltage supply for the vacuum tubes is a fully discrete regulated supply with over 220uF of capacitance provided by a separate high-voltage transformer winding. Mimas' input circuits are operated by a fully discrete regulated supply with over 4400uF of capacitance. Vacuum-tube heater supplies are fully DC-regulated.

Tubes are burned in for more than 100 hours before testing, a regimen that includes full FFT distortion analysis, gain-matching to within 0.1dB, microphonics, and noise levels. Crucial to the performance and reliability of any preamp is the volume control. Mimas employs the same premium (and costly) control used in the brand's Calypso preamp, which offers 88 one-dB steps, utilizing individual switched 1% metal-film resistors

rather than the cheaper, colored potentiometers or inexpensive integrated-circuit-based volume controls. The transformer is shielded from sensitive audio circuitry by a stainless-steel cover, further adding structure and rigidity.

Aesthetix is not finished with the Mimas either, not by a long shot. A pair of back-panel slots have been reserved for two optional modules. One is earmarked for a dual-input (mm and mc) phono card using a fully discrete FET-based, high-gain differential circuit with Wima film capacitors for RIAA equalization and power-supply bypass. When installed, the card activates software allowing for front panel and remote adjustable gain (up to 72dB) and loading. The other slot will house a DAC card with inputs for two coax, two optical, and USB. Sampling rates will range up to and include 384kHz/24-bit PCM and DSD64 and DSD128 (DoP).

The DAC board will employ fully balanced differential analog circuitry utilizing Wima film capacitors from Germany. The USB stage uses Wavelength Audio's asynchronous implementation. Finally, for more critical personal listening, Aesthetix will offer an optional fully discrete, Class AB, one-watt (into 32 ohms) headphone amplifier with Mogami wiring.

For the subwoofer/cinema crowd Aesthetix can outfit Mimas with an adjustable high-pass crossover designed for systems where the user aims to roll off the main satellite speakers. Four crossover frequencies are available and adjusted in hardware: 60Hz, 80Hz, 100Hz, 120Hz. All slopes are 6dB. Custom crossovers are also available.

Behind the Scenes at Aesthetix

Neil Gader

Aesthetix was founded in 1993 by owner and chief designer Jim White. The first component to enter production was the all-tube lo phonostage in 1994, which in retrospect was not all that surprising given that White has always been an analog loyalist. Even now Aesthetix's biggest seller is the Rhea phonostage.

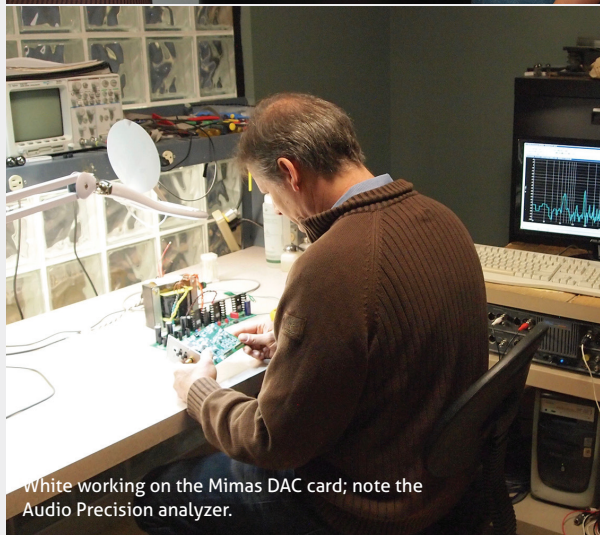
The factory is located in the city of Moorpark, about thirty miles northwest of Los Angeles on a freeway that ultimately leads you to Santa Barbara and then onward up the picturesque California coast. The exterior of the factory is nondescript; the building, whose labyrinthine interior contains about 12,000 square feet of workspace, is partitioned into rooms where components from specific Aesthetix series are assembled. This is not a big operation. There are only seven employees, including Production Manager Ozzy White (Jim's son), and Head Engineer Robert Lacy, the man principally responsible for the Mimas project.

White greeted me as I arrived. Affable as always, White is quick to acknowledge the names of the men who mentored him early. His goal from his college days was always geared toward designing audio electronics. To that end he applied himself to math and physics, but vacuum-tube technology was always his primary interest, an area not formally taught in school. In that sense White is pretty much self-taught. He began working at Theta Digital in 1990, where he was mentored by three key engineers: Mike Moffat, Dave Kerstetter, and Tom Lippiatt. As White stated in TAS' Back Page interview in Issue 243, "Without their benevolence, Aesthetix would not be what it is today."

The Aesthetix design philosophy has remained constant from the start. Tube technology prevails, but White will be the first to admit that bipolar transistor and FETs all have their place, particularly as regards power-supply regulators and power amplifier output stages. Aesthetix components are zero feedback and in most cases employ differential amplification, primarily for the advantage of common-mode rejection and the reduction of ground currents. White saves much of his enthusiasm for the over-built, ultra-high-performance power supplies and the in-house-built transformers he designs. Most Aesthetix components opt



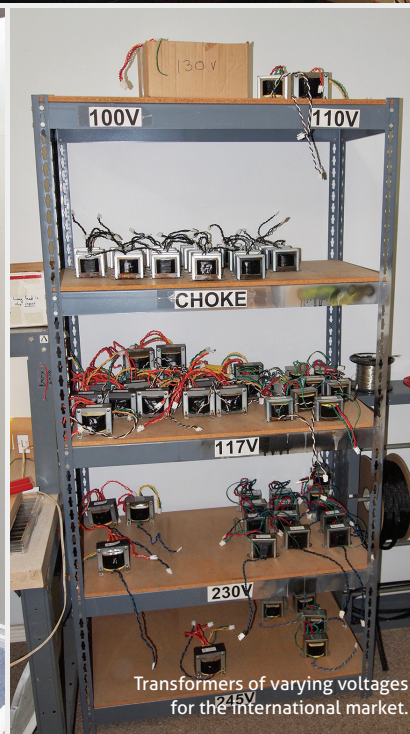
Jim White and his son and Production Manager, Ozzy, with a Mimas amp.



White working on the Mimas DAC card; note the Audio Precision analyzer.



Copper wire of various gauges for transformer windings.

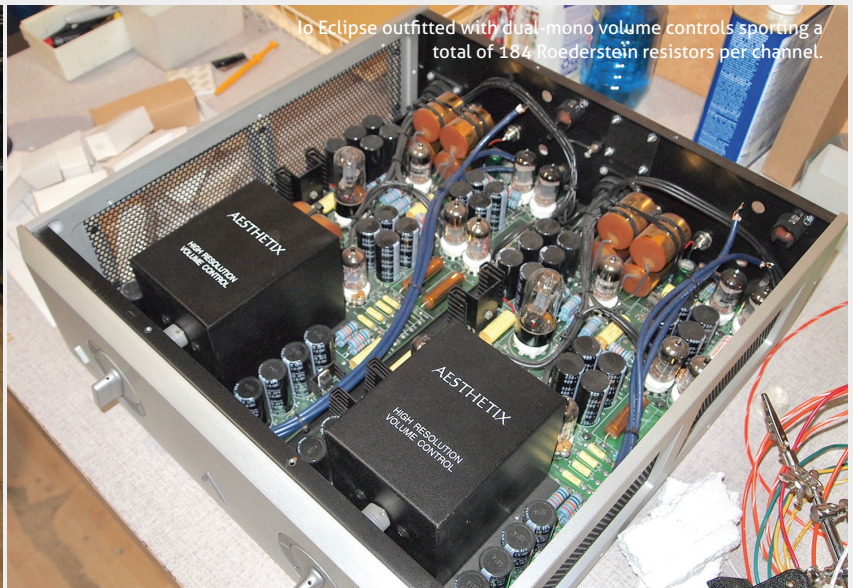


Transformers of varying voltages for the international market.

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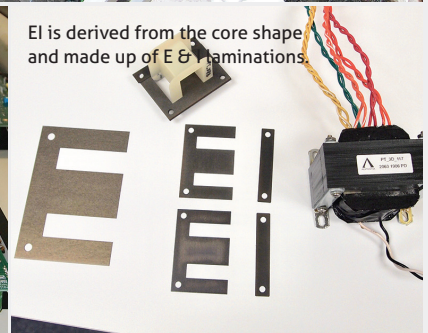
Checking specs on a Mimas front panel.



The Eclipse is outfitted with dual-mono volume controls sporting a total of 184 Roederstein resistors per channel.



Boards back from assembly house—solder is from Cardas.



EI is derived from the core shape and made up of E & I laminations.

for expensive choke input power supplies for “improved regulation, greater isolation from RF, and an easier load on the transformer.” White also emphasizes that all Aesthetix products employ discrete regulation for audio circuits (except the high-current supplies for output stages), and utilize the highest-quality electrolytic and film capacitors. Every power supply in Aesthetix products is carefully regulated to ensure consistent sound quality day-to-day, regardless of AC power conditions.

The Aesthetix facility is less like a commercial factory production line than a hands-on custom house producing highly bespoke electronics. The factory is primarily dedicated to design, prototyping, and final assembly and testing. Circuit boards are assembled elsewhere. Typically in those instances Aesthetix will get all the tested parts together for a run of perhaps a hundred boards and send them along to the assembly house, whereupon they're returned fully assembled. However, all other delicate operations are done in-house.

The aluminum cabinets are machined in the same Santa Barbara shop that Aesthetix has used for years. The faceplates are particularly expensive with their silkscreen lettering and laser-cut aluminum logos. The final assembly of the faceplates and front panels is among the most time-consuming jobs. It includes optimizing the action of the front buttons along with circuitboards and LED displays and lenses.

When it comes to tube testing White remarks that “we can select each [specific] tube we want to test. But, it's not just a transconductance test or a pass/fail test; we actually do full

distortion analysis, noise analysis, gain.” Tubes are purchased thousands at a time, but White adds that the rejection rate is very high, especially with the tubes that go into phonostages, which makes a product like the all-tube Rhea particularly difficult to build. And the actual sourcing of tubes is always a moving target. Prior to shipping, each unit is power cycled at least ten times over the 100-hour burn-in. Before insertion into the chassis, circuit boards are re-tested (they get tested at various earlier production stages), and then the finished component gets a full “pushing all the buttons” listening session.

Since the factory tour was contemporaneous with my Mimas review I wanted to understand what prompted White to design the first integrated amp to bear the Aesthetix badge. His reply: “No one in my family could own Aesthetix products, and separates were overkill. With Mimas, anyone can own it and use it.” And why did the proposed one-year project expand into a four-year marathon? White conceded that it was more difficult to do it the way he wanted to: “A lot of it was how we could do it with fewer output devices, and get the power we wanted out of that chassis. But doing the additional cards and dealing with thermal issues and isolation issues, etc., were much more difficult than in a high-end product in its own chassis.”

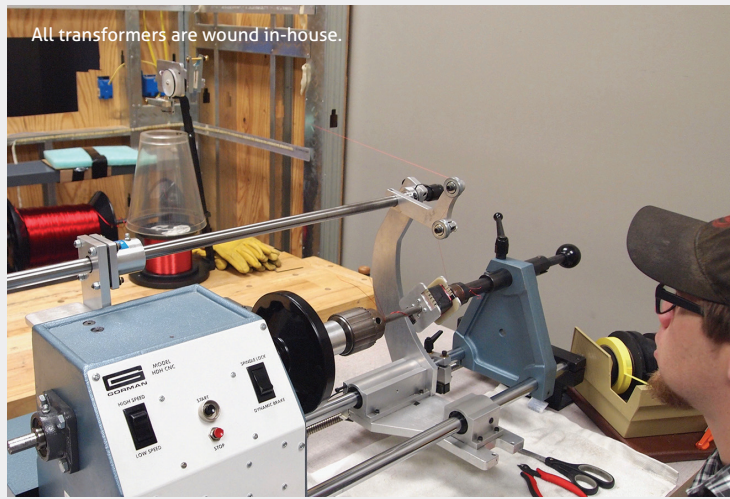
I asked whether the Mimas integrated would remain in its

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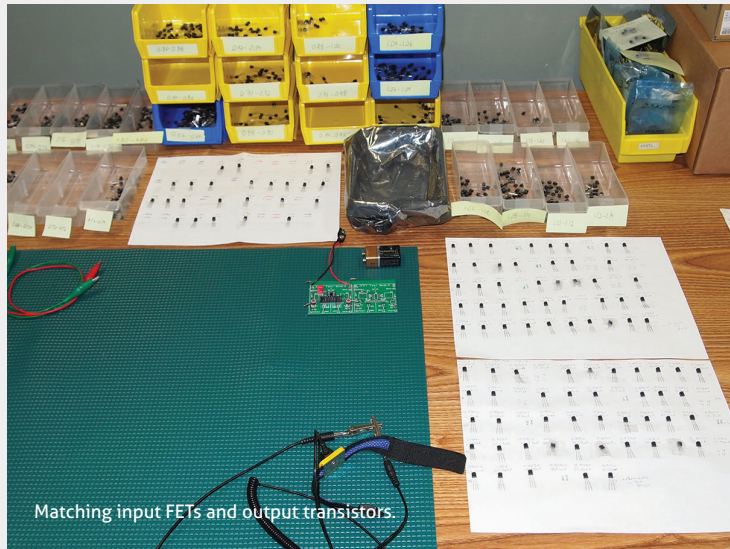
current form or if there were any plans to turn it into a "Mimas" collection, including a preamp and stereo amp? Without explicitly confirming or denying anything, White did admit that he was strongly entertaining such possibilities, including stand-alone versions of the on-board DAC and phono stage.

Having recently reached its 25th anniversary, the Aesthetix lineup now includes the Jupiter and Saturn Series, with each model named for one of those planets' many orbiting moons. Included are preamplifiers, stereo and monoblock amplifiers, phono stages, a DAC (with and without transport). Most components are available in optional Signature and Eclipse editions. These custom upgrades can include power-supply modifications, enhanced internal parts, volume control upgrades, improved chassis construction, and stunning customizable casework, right down to a palette of color choices for the knobs.

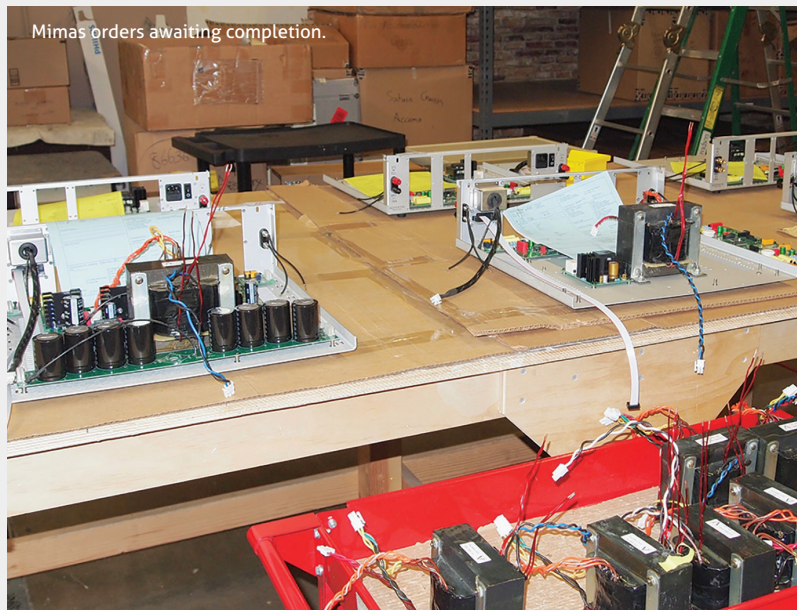
As we concluded, I couldn't conceal my surprise when White remarked offhandedly that *no* Aesthetix product has ever been discontinued. Each one is still available and manufactured. I learned then that nearly every Aesthetix product is retrofittable. Examples are the addition of DSD to the Romulus DAC/transport and network connectivity down the road. Maintaining the viability of older components is not always the most popular option for dealers but customers love it. "Customers get attached to a component," says Jim White. "I look at it as a consumer would. When you've been in business 25 years the product line just grows and grows. We learn, we get better." **tas**



All transformers are wound in-house.



Matching input FETs and output transistors



Mimas orders awaiting completion.



Wall of Roederstein resistor bins, includes IC's and capacitors and surface mount.

MIMAS integrated hybrid amplifier

Features

Inputs: -5 balanced & single-ended.

Outputs: -Preamp output, balanced and single-ended.
-One balanced-bridged speaker output per channel.
-Headphone 1/4".

I/O: -RS232: 1 DB9 connector, IR extender.

Full function remote control.

Home theater bypass.

Trigger: -0-5V output, 0-12V input; 1/8" mono jack.

Dimensions: -17 7/8"x17 11/16"x5 1/2"
-44 lbs unit; 51 lbs boxed

Tubes: -One 6DJ8/6922/channel

Power: -150 wpc, both channels driven into 8 ohms, nearly double into 4 ohms.

Options

Phono: Two input, MM / MC. Gain / loading front panel and remote adjustable.

DAC: 2 x RCA, 2 x TosLink, 1 x USB 24bit / 352k, DSD and DSD2.

Headphone amplifier upgrade with 1W into 32 ohms.

Backlit, motion sensing, brushed aluminum **remote control**.

High pass **crossover**.

we listened

For years you asked us to combine our Calypso linestage and our Atlas power amplifier. We listened.

Fully differential

Zero feedback

Balanced-bridged outputs

Tube / transistor hybrid design

Switched resistor volume control

Multiple discrete individually regulated power supplies

Vacuum tubes painstakingly tested and matched by hand

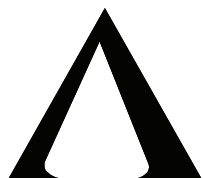
Custom transformers designed and wound in-house

Highest quality parts

Made in California, USA



Optional DAC card



www.AESTHETIX.net