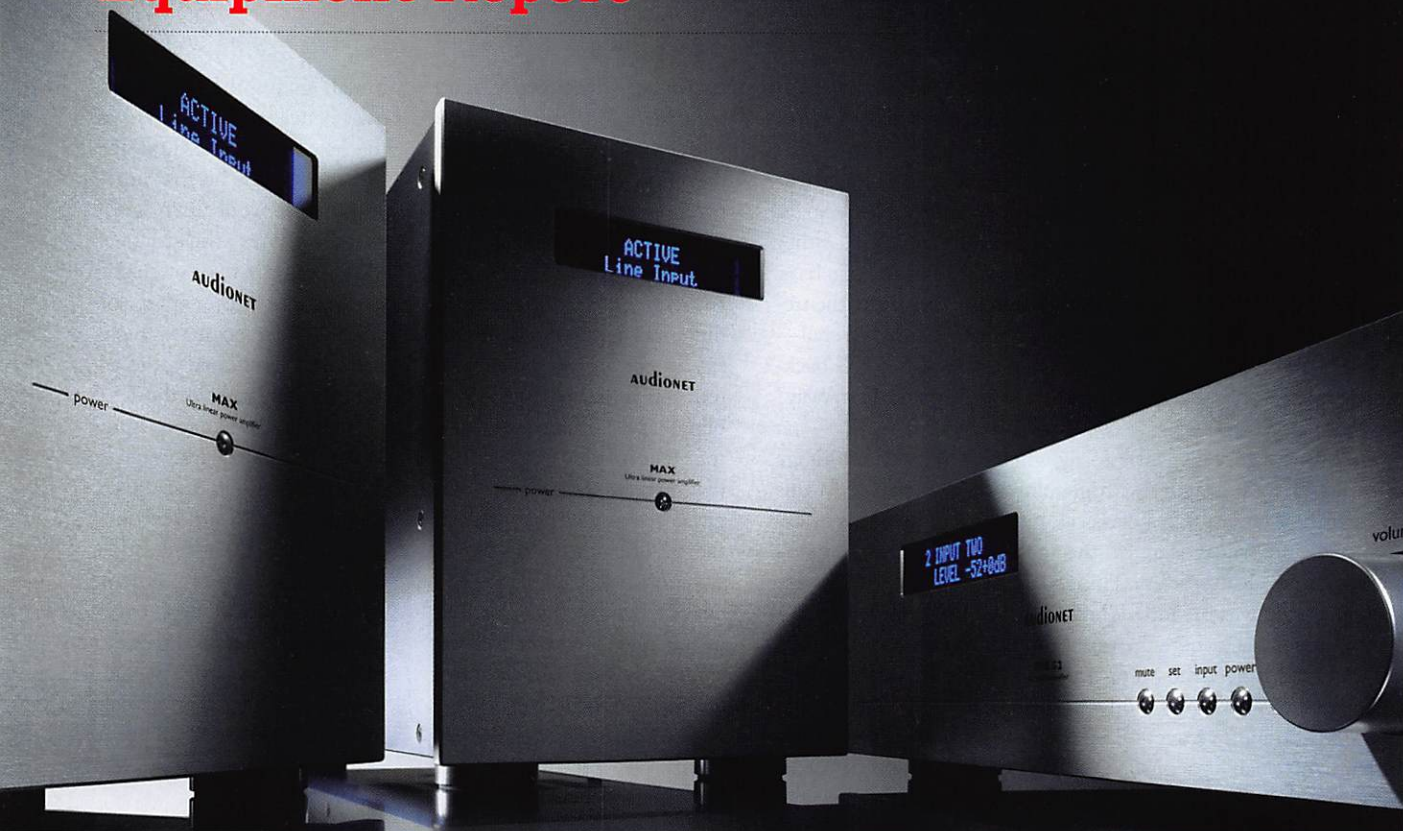# Audionet PRE G2 Linestage and MAX Monoblock Amplifiers

Two for the Ages

Greg Weaver

Perspective

After a youth filled with music and experimenting with equipment, including dismantling the drivers from speaker cabinets and reassembling them into new enclosures, then a university career filled with further audio experimentation including a collaboration with an engineering student friend, in 1984, Thomas Gessler started a job in a consultancy for new technologies. The position consisted of alerting interested companies to inchoate technologies and then supporting their implementation. His major projects dealt with surface-mount technology (at that time an entirely new way of attaching components to electronic circuit boards), and artificial intelligence, which had already emerged as a significant subject.

Thomas seemed to possess a natural talent for calculating the potential benefits of these emerging technologies, and by

1990 he was offered a job as managing director of a company that had been established at the Ruhr University Bochum for developing research results into marketable products. At that time, the University's electronics department was working on sensors, measurement electronics, and applications for some of the very first signal processors based on thin- and thick-film technologies. Because the signals from these sensors were so weak, there was a need for an entirely new breed of measurement electronics: highly reliable, high-resolution analog amplifiers. Having access to the capabilities of the Ruhr University and teeming with new ideas and concepts in analog amplification (as well as in digital signal processing), Thomas and his young team were also all music lovers. That is when the inevita-

ble happened: They decided to develop their own audio electronics, spurring Thomas' acquisition of the staff of the University's electronics department.

Over the next two years, 1991 and 1992, several key things occurred. Thomas' team created its first real audio product, developed as much as a proof-of-concept for what it could do with signal processors as anything else, called the DLC, or Digital Loudspeaker Controller. The DLC could actively correct the phase and frequency shortcomings of a loudspeaker. Sadly, it was a total commercial flop. Though many experts were excited, customers showed absolutely no interest. It was some 15 years ahead of its time.

About that same time, Gessler received an invitation to an open competition to the industry to develop the

this exceptional gear at many shows, where it has never failed to earn my respect. But it was last September's private launch of the YG Acoustics Sonja XV event, using the very devices under evaluation here, that solidified my desire to take this closer listen.

Welcome to the Machine

At 17" wide, 5 ½" tall, 16 ½" deep, and weighing some 44 pounds, the PRE G2 (for Generation 2), is an elegant, somewhat Spartan-looking linestage. The 10mm-thick faceplate has a two-line Vacuum Florescent Display in its upper left quadrant that routinely shows which of the five single-ended or the single XLR input is selected (all user-nameable by the way), either the output in relative dB or mute status, and the offset volume. Each of the six inputs is variable by a range of –9dB to +9dB (in 1dB steps), to allow for matching the different output levels of connected sources. Central to the faceplate is the stylized Audionet name, with model, PRE G2, and description, Stereo Preamplifier, etched immediately beneath it. In the lower-right quadrant is a row of rounded buttons, from left to right: mute, set, input, and power; then the IR remote receiver window, with a 1 ¾" round volume knob finishing the lineup.

The back is separated into left and right by a vertical row containing the fuse holder at the top, the mains power rocker switch, the IEC cord socket, an optional grounding post, and two Audionet Link outputs (optional TosLink cables) for remote triggering at the bottom. The top half of each side is occu-

external active four-way crossover for the new B&W flagship loudspeaker project, the Nautilus. Not only did Thomas' group win that contest, but it continued producing those crossovers until about 2014.

The successful contract from Bowers & Wilkins seemed to be the final impetus, and on January 1st, 1994, Thomas founded Audionet. One of its very first products was for the medical world—a measurement unit for a sensor that could be used to gauge the oxygen content of blood. Audionet also developed the very first rain sensors for the automotive industry, along with the required measurement technology to integrate them. These were followed shortly by the first Audionet amplifier, called The End, in 1995, initially delivered to the Taiwanese market, then introduced to Germany and Europe in 1996. The game, as Sherlock Holmes would say, was afoot.

Fast-forward to October, 2014, which saw momentous change at Audionet. Thomas rounded out the Audionet "Dream Team" by adding Robert Hagemann (formerly with Dynaudio, KEF, and Burmester) as a managing partner, bringing in Jan Geschke (Mercedes-Benz, Porsche, Dali, and Dynaudio) as the brand director, and contracting renowned industrial designer Hartmut Esslinger (Apple, Sony).

While Audionet may be an unfamiliar name in the U.S., my visit to Munich to attend the High End Show this past May showed me that the company enjoys a status in the German

and European audio market comparable to that which companies such as Constellation or Pass Labs enjoy in the United States. You simply could not miss Audionet's presence throughout the Munich High End event and the MOC Halls, with wall-sized banners, elevator door, floor, and stair applications, wall hangings, and signage seemingly everywhere.

The first time I heard the name Audionet was a mention by longtime friend and colleague, Dr. David Robinson, in his 2014 Rocky Mountain Audio Fest report. The first time I recall hearing the products came the following April, at AXPONA 2015, which saw my first show report for *The Absolute Sound*. Since then, I've heard

Specs & Pricing

PRE G2

Inputs: Five pair Furutech RCA line; one pair XLR

Outputs: One pair Furutech RCA, one pair Furutech RCA inverting, two pair XLR, and one pair Furutech RCA Monitor

Frequency response: 0Hz–2MHz (- 3dB)

SNR: >120dB

THN + N: <-102dB

Output impedance: 22 ohms

Dimensions: 17" x 5 ½" x 16 ½"

Weight: 44 lbs.

Price: $23,350

MAX

Output: 400W into 8 ohms; 700W into 4 ohms; 1100W into 2 ohms

Inputs: One Furutech RCA, one XLR balanced

Frequency response: 0Hz–500kHz (-3dB)

Damping factor: >1800@10kHz and >10,000@100Hz

SNR: >125dB

Loudspeaker outputs: Two pair Furutech

Input impedance: RCA, 37 k ohms, 100pF; XLR, 3k ohms, 100 pF

Dimensions: 8 ½" x 11 ¼" x 19 ¼"

Weight: 84 lbs.

Price: $30,500

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Cosmetically matching the appearance of the PRE G2, each MAX monoblock amplifier is only 8 ½" wide, 11 ¼" tall, and 19 ¼" deep, weighing in at about 84 pounds. Though not absurdly massive for their size, the MAXes are respectably substantial. This form-factor was selected to optimize inter-stage isolation, and to minimize both power supply disturbances and overall signal path length.

Sporting the same size 2-line VFD as the PRE 2G in the top fifth of its brushed aluminum faceplate, the MAX has a rounded power switch mounted dead center. Again, elegantly minimalist.

The rear of the MAX has all inputs and controls positioned in the upper two-thirds of the left side. Near the top are both the balanced and line inputs. Beneath them are a matched set of speaker binding posts for bi-wiring. It should be noted that these posts are extremely close to each other vertically (+ above and – below) and horizontally. Unless you are using banana plugs, be *very* careful of your connections here. Below the speaker outputs is the mains rocker switch, the IEC cable socket, and a pair (one in, one out) of TosLink Audionet Link connections.

Though the MAX comes equipped with both RCA and XLR inputs, which are electronically switched over gold-plated precision relays, Bill Parish of GTT Audio, U.S. importer for Audionet, suggested that I use *only* the single-ended inputs. When we installed the MAXs in my

pied by the five single-ended RCA (or Cinch Line as Audionet refers to them) and one single XLR balanced input, with the right channel inputs to the right side, and the left channel inputs to the left. Immediate beneath the left and right inputs are the corresponding left and right outputs, one single-ended, two balanced, one single-ended inverted, and one single-ended "monitor."

This is one intelligent linestage, with microprocessor control regulating all functionality, from display brightness, to balance adjustment, through auto-start and bypass modes. When touched on, each input can be uniquely named, and different input signal levels corrected; even source signals containing DC components can be compensated for. The PRE G2 even notifies you if your AC mains have incorrect polarization. Other Audionet devices—like the MAX—can be switched on via the Audionet link with the use of optional TosLink optical cables, and all functions can be controlled using the compact RC1 remote.

A dual-mono design using miniaturized Surface Mount Device technology, the PRE G2 is completely DC-coupled, with no capacitors in the signal path. The chassis and circuit are magnetically and capacity-optimized to limit interference and microphonic effects. Volume and balance are regulated by electronically switched precision resistors, ranging from -80 to +10dB relative to the input signal, and all signal carrying and controlling functions are optically separated, helping to immunize input and output circuits from the negative influences of connected equipment.
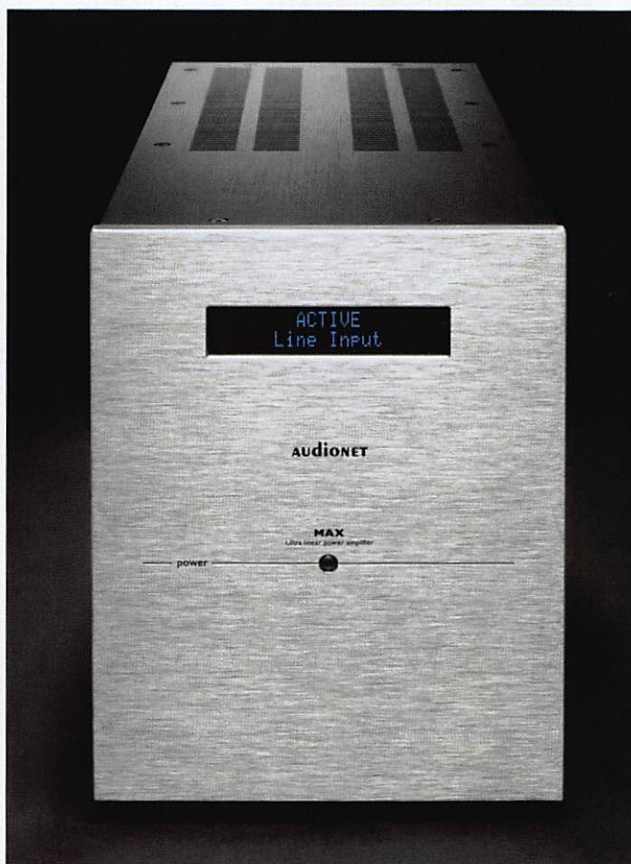
system, Bill filled me in on the reasoning. Audionet, not unlike most other amplifier manufacturers today, uses an operational amplifier on the balanced input. While it may be the best-sounding op-amp available today, it is nonetheless unnecessary additional circuitry, and you can hear it.

The MAX is based on a proprietary circuit Audionet calls its Ultra-Linear Amplifier (ULA) topology, pioneered and developed from its early medical amplifier applications. Much like the PRE G2, the MAX is magnetically and capacitively optimized to largely eliminate feedback from electrical interference, as well as from reciprocal influences between the amplification channels during the amplification process. To optimize speed and high-frequency attributes, to use its own words, Audionet "indulges in an orgy of minimalization." Furthermore, the MAX does not use any sonically detrimental components such as coils, chokes, or power relays in the signal path.

The input stage is configured as a cascaded and bootstrapped differential amplifier using a low-noise, monolith-

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ic dual FET, with the input and driving stages separately powered by oversized 80VA toroid-core transformers with separate windings for positive and negative operating voltage. The output stage is equipped with eight hand-selected, actively biased power MOSFETs and is stabilized with discrete MOSFET regulators, again with the negative and positive operating voltage decoupled entirely. Two individual 1000VA toroid-core transformers feed the positive and the negative half-cycles of the mains, and four fast, impulse-resistant, high-current capacitors (with a total filtering capacity amounting to 156,000µF) serve as a reservoir.

It will likely come as no surprise that during the man-

ufacturing process of every MAX, all the relevant components are repeatedly tested, meticulously measured, and then matched in optimal pairs to assure best performance.

Again, much like the PRE G2, a microprocessor controls all functionality including display brightness, input selection, auto on and off, and auto-start options, as well as constantly monitoring for the presence of DC, high frequency, temperature, and overload conditions. In the case of a fault, the MAX disconnects from the mains supply and its two-line display indicates fault source(s) in plain text. The display can use either a "screen saver," randomly moving its selected display (input selected or temperature) every 12 seconds or so, or just be switched off.

Both the PRE G2 and the MAX circuits are populated with only the finest components available, many of which are custom-made for Audionet. Select filter capacitors and the bulk of the audio-grade electrolytic capacitors employed use a dielectric made of silk. They also use mica capacitors, selected high-voltage foil capacitors, the best connector systems available from Furutech, including rhodium-plated loudspeaker outputs, and silver-gold alloy internal wiring. Even the fuses in the MAX are made of rhodium and gold! And, both units, like all the Audionet machines, are available with a brushed-aluminum front panel, either silver or anodized black, and with your choice of either red or blue display.

While I've never been one to take performance statistics as an end-all for sonic performance, I must say that when I looked at the published frequency response of the PRE 2G, which is given as 0Hz–2MHz (-3dB), DC-coupled, I admit to being impressed.

The MAX's rated output is 400 watts into 8 ohms, 700 watts into 4 ohms, and 1100 watts into 2 ohms. And like the PRE G2, the MAXs stated bandwidth of 0–500kHz at -3dB is superb. With a claimed damping factor of 1800 at 10kHz, and a stunning 10,000 at 100Hz, the MAX should have the ability to control any loudspeaker you choose.

Sounding off

I tend to adhere to my own set of rules when it comes to testing products. After finally combining them into a list in February of 1999, number three states, "Make only one change at a time." With that stipulation, my massive Pass Labs XA160.8 monos were removed from their isolation stands, and after replacing the Sorbothane isolation pucks for the proper load, the much smaller, lighter, and more Spartan-looking MAX monos took their place.

Honestly, after the first 20 minutes of listening, my initial impression was that it was kind of a sonic draw, the XA160.8s seemed to afford just a tad more color, and the MAXs seemed to offer added micro- and macro-dynamic involvement. Keep in mind, the XA160.8s had been powered on for weeks prior to the Audionet gear arriving, and were thoroughly run-in and completely stabilized. After the swap, the MAXs had only been powered on for about 30 minutes, so they were far from their optimal operating parameters. But at this early stage, the differences seemed more a matter of tradeoffs than anything decisive. That was when Bill Parish, who had delivered and set up the
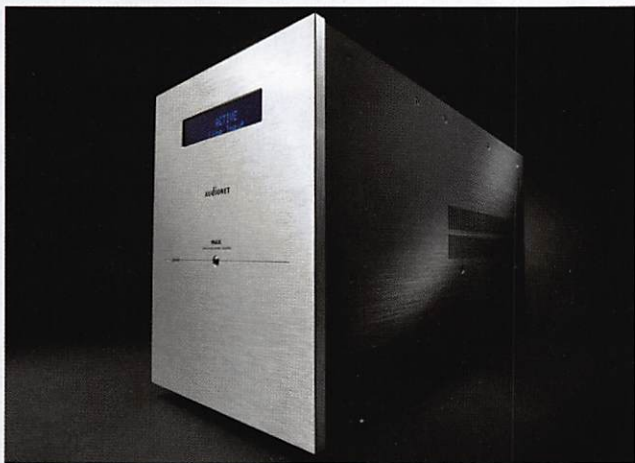
What also became perfectly clear nearly immediately was that my Von Schweikert Audio VR-55 Aktives were even more transparent than I had realized.

linestage and monos, urged me to ignore my third tenet, and drop the PRE G2 into play in place of my DSA Pre I linestage. While this was clearly not how I would normally proceed, given his insistence, I decided to give it a go.

The PRE G2 had been plugged in and powered on for considerably longer than the amp (Bill was quick to point out that Audionet suggests a minimum of two hours of warm-up for these products), as it had been unpacked first and powered on so Bill could customize the input settings. As the G2 should have been properly warmed up by then, we swapped it in. The result was, well, staggeringly good! The synergy between the PRE G2 and the MAX was undeniable. Sud-

denly, what I was hearing—stunning bass control, exceptional low-level resolution and transient speed, greatly diminished coloration, a significantly lower noise floor, and a gorgeously rich density of texture and tone color—was much more reminiscent of the sound I hear from much costlier *über*-machines that hail from Switzerland.

Over the next few days I found myself dropping both my reference DSA Pre I and the Pass Labs XP-20 linestages back in place to verify my initial impressions. In direct comparison to the significantly more expensive $23,350 PRE G2, both sounded, well, considerably less competent.

But was it just the PRE G2 linestage that was the sonic overachiever in this pairing, or did the MAXes bring something special to the sonic landscape? Testing that hypothesis was not easy, as each of the XA160.8s weighs nearly as much as the pair of MAXes, but I schlepped them back into place and drove them with the PRE G2 to find out.

Almost surprisingly, it was *not* just the PRE G2 that was responsible for the

substantially elevated level of performance. Honestly, with the XA160.8s costing just $1500 less than the MAXes, one must see them as competitive products. Yet what became readily apparent when either of this pair of Audionet machines was out of my system, replaced by any other component, was that overall performance took a serious hit—less tonal accuracy, poorer pitch definition and texture, a clear loss of resolution and especially transparency, and a compression of dynamic scale and contrasts were the most apparent differences.

What also became perfectly clear nearly immediately was that my Von Schweikert Audio VR-55 Aktives were even more transparent than I had realized, strongly reaffirming my assertion that they are one staggeringly good product at their asking price. However, during my time with this Audionet dynamic trio, Laurence Dickie's new Vivid Audio flagship loudspeaker, the Giya G1 Spirit, arrived for review. The Spirit's level of performance surpasses the VSA VR-55 Aktive's in a number of ways (my full review will appear soon), and this allowed me to understand more distinctly how exceptional the PRE G2 and MAX monos actually are.

Deeply extended bass, down into the lowest regions typically mined by instruments like contrabassoon, upright bass, and pipe organ, was seemingly effortlessly and clearly delivered. This speed and resolution were matched by weight and impact, making for some of the most believable bass I've yet heard in my room. I was taken with the near non-existence of any discernible hint of slurring or blurring, at any volume.

I was hearing subtleties in the deepest bass performance in recordings I've been listening to for decades, as diverse as Janis Ian's *Breaking Silence* [Analogue Productions], Roger Waters *Amused to Death* [Columbia], and Saint-Saëns Symphony No. 3 "Organ" [Mercury]. My system was now revealing pitch definition and transient detail in the lowest octave and a half in a manner reminiscent of systems using both much pricier electronics and speakers than mine does. In this respect, the Audionet pairing is so reminiscent of the prowess of the original Soulution 700 monos or the darTZeel NHB-458 monos, that I was nearly speechless. I've not heard such low-frequency transparency, detail, and focus from any pairing even close to this price range prior to the arrival of the Audionet gear.

Resurrected passages from the depths of the previously mentioned Mercury Saint-Saëns Symphony No. 3, were simply weightier, fuller, and better defined than I've ever experienced from that record. The room completely pressurized when that lowest organ key was hit near the opening to the second movement. Keeping in mind that this recording is nowhere near the end-all in bass performance, this linestage and pair of mono amps still recreated it well beyond the capabilities of any electronics I can recall at this price point.

Moving to midbass, the Audionet duo breathed life into every musical genre from any format—LP, Red Book CD, SACD, DVD-A, PCM or DSD files—I fed them. In this all-important region, typically referred to as the power range, comprising roughly the third and fourth lowest musical octaves (from about 80–320Hz or so), where the propulsive energy and body of the music dwell, and where much of the music's overall or-

ganic warmth and texture reside, the Audionets really step it up. Their remarkable performance in this crucial range again called to mind that of gear pairings costing well into six-figure territory, as the MAXes clearly offered a monumental step up over any previous electronics I've had in house.

The midrange was sublimely magical, a near-unparalleled combination of instrumental body and bloom with timbral and textural accuracy that can only be described as wholly organic. They absolutely excelled at capturing the individual brilliance or sheen of voices, from the wily charm of Rickie Lee Jones on her eponymous album [Warner], to the robust, charismatic voice of Stevie Ray Vaughan (all too often overlooked in favor of his obvious guitar mastery) on "Tin Pan Alley" from *Couldn't Stand the Weather* [Epic]. The tone and texture of Johnny Cash's voice on "Bird on a Wire" from *American Recordings* [American Recordings] was so chesty, so full and textured, so chillingly authentic, I'd never before been more convinced that he was alive and in my room. The same was true of Henryk Szeryng's violin on the Lalo *Symphonie Espagnole* [RCA]. The purity and naturalness of its timbre were undeniable.

Essentially, the midrange was blustering with life, rich in detail, and full of harmonic bloom. Instrument fundamentals from piano, violin, guitar, human voice, etc., had a lifelike quality, even with recordings I had previously considered mediocre. This was some of the most engaging and articulate midrange I have had the pleasure of hearing: fluid, smooth, and expressive.

The PRE G2 and MAXes offered a notable increase in resolution and transparency in the treble, too. With the Audionet combo, the top end was focused and detailed, yet smooth and without any etched sterility. The pair delivered an unbelievably open and dramatically airy top end, with vivid attacks. I'm not sure I have ever heard significantly better from any pairing to date.

Cymbals or, more notably, triangles and chimes decayed seemingly forever (recording permitting), and with a clarity, texture, and tone redolent of what I hear from the likes of Constellation. In sum, from the lowest bass to their uppermost extension, the Audionet gear displayed one of the most remarkable tonal balances I've encountered.

Its dynamic capabilities were also frighteningly good. In all my time with them, I never detected any hint of compression of musical scaling, no matter how hard I pushed them on either my Von Schweikert VR-55 Aktives or the new Vivid Audio flagships. Their exceptional dynamic competence had also been clearly apparent when listening to them drive the ground-breaking YG Acoustics Sonja XVs last fall. The speed and resolution they exhibited when recreating leading transients on percussion (and strings, piano, and horns) were revelatory, and their ability to deliver physical punch, producing chest-crushing impact from drum whacks or bass string snaps, was exhilarating.

Then there is their sense of speed. This was so enticing that I couldn't believe what I was hearing. They convey such a credible sense of tempo, of swiftness, of immediacy, that all voices were that much more believable.

When it comes to soundstaging, this combo was truly world-class. I suspect a major part of their success in this category is attributable to their superb resolution of low-level spatial cues, accurately revealing and recreating the reverberations and reflections of the recording venue.

Image sizes were unquestionably realistic, neither bloated nor diminished, and locations were solid and stable, with a remarkable sense of air and space around and between the highly individualized voices throughout the stage (recording permitting). With recordings up to the challenge, the stage was compellingly wide, deep, and, most notably, the right height.

In my notes for this Audionet audition there were two attributes that I wrote about more often than any others: transparency (and by extension, resolution) and immediacy. Nothing else at anywhere near their asking price has been so incisively articulate yet so unmistakably natural-sounding.

Slaying, or Certainly Humbling, Giants

At this point in my audio journey, after some 45 years of being involved at virtually every level of high-end audio (I was selling stereo gear before I could legally drive a car), I find that this Audionet combination represents one of the highest ratios of performance to price I've yet encountered, exemplifying the role of the proverbial "Giant Killer."

If the ultimate goal in this industry is to create products capable of engaging the listener so completely that we become transfixed by an entirely fabricated deception, unaware that the time and space of the events unfolding before us are merely auditory illusions generated by a complex reconstruction engine, a conglomeration of electro-mechanical devices, then Audionet has earned its place among the handful of manufacturers pushing the limits. If you are looking to spend upward into the mid-six-figures on your main electronics pairing, I urge you not to part with a dime until you seek out and hear what the PRE G2 and MAX can do. If you value performance over all else, you are going to save a pile of money. tas