

# Voice? Whose voice, and where does it come from?

## The role of "Voice" and "Voicing" in great audio:

If an audio product were perfect, it would have no sound of its own. It would be invisible. It would have no "voice." In the real world, DACs, amplifiers, turntables, and

especially the transducers microphones, phono cartridges, and loudspeakers—all have distinct sonic characters.

Imperfections are inherent to every audio product and design. "Voice" is the result of crucially acknowledging the sonic effect of every decision and every part, and then purposefully coordinating the combined effect of all those many little imperfections into a whole, creating a voice with as little overt character as possible. At least, that's the objective for all GoldenEar loudspeakers.

Many speaker designers have different ideas about how a speaker should be voiced. Some voice their speakers to be more like studio monitors, which intentionally



heighten the listeners' awareness of potential recording flaws—a lousy recipe for speakers whose first job is to deliver the thrill and beauty of music and soundtracks.

Other speakers are voiced to grab your attention in the strange, distorted, emotional environment of listening while standing in a store. This voicing technique is a bit like early color TVs being sold by turning up the color too much. These speakers might win the "look at me" war in a retail showroom, but at the expense of making music and movies unnatural and tiring at home.

We'd like to boast that GoldenEar speakers are perfect, voiceless. But that would be absurd—nothing is perfect. The real difference between lesser and greater products is in their designers' ability to manage inevitable imperfections.



Competent voicing doesn't itself reduce the quantity of the imperfections, but rather it coordinates them into an extremely low-level, ignorable background with no features that shout for attention. That's the goal—one shared by all GoldenEar speakers.

If you haven't already experienced the GoldenEar voice, we hope you'll visit one of our excellent dealers where you can sit down, take a deep breath, and pretend you're listening at home. We think you'll agree that a natural and friendly "voice" is a goal worth aspiring to.







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The Greatest Bargains in High-End Audio
(and Where to Find Them Reviewed in this Issue)

The pursuit of truth and beauty is a sphere of activity in which we are permitted to remain children all our lives.

Albert Einstein





## Letters

#### Now, More Than Ever

Unlike many TAS readers, who upon receipt of their new issue go right to the \$500k speaker reviews or \$100k amp reviews (ha!), I immediately turn to the music section. In the last few months TAS has introduced me to many wonderful artists, Sass Jordan and Alecia Nugent to name two.

Might I suggest an addition to TAS—a section that introduces the readers to artists whom the writers like? Just a brief overview with a suggestion of a couple of albums that might be a good starting place. We can do the rest of the research.

Thank you TAS for bringing so much great music into my life! Everything you do to help us can make a difference. Please reach out now, more than ever.

#### **Rick Rubenstein**

#### **Contradictory Speaker Designs**

It appears contradictory to me that some very highly regarded speaker designs stress the importance of phase and timing of individual drivers (think Wilson), while others (MBL Radialstrahler omnidirectional, Magnepan dipole) disregard this altogether since a portion of the emanating sound is either out of phase, delayed in timing, or both. Yet each concept is heralded as the main driver (no pun intended) of superior sound.

#### Alan Schneider

Robert Harley replies: You are correct that high-end audio has embraced many conflicting loudspeaker design approaches. This is true not only for the phase and timing aspects that you note (though see Jonathan Valin's comments below about the MBL Radialstrahler), but also for to dispersion, driver operating principle (dynamic driver, ribbon, electrostatic, horn), crossover slopes, cabinet construction, and myriad other technical factors. Interestingly, one can point to superb-sounding examples of products that embody these wildly disparate performance characteristics. Franky, it's a mystery, but one that has resulted in the current marketplace of speakers designed with very different technical priorities.

Jonathan Valin adds: I don't know where Mr. Schneider got the wholly mistaken notion that the designers of speakers like MBLs disregard phase and timing issues. The truth is exactly the opposite. As Jurgen Reis noted in my interview with him (in Issue 301), because they share the same "middle axis" and radiate omnidirectionally (as instruments do in reality), the radial drivers in speakers like the 101 X-treme are, by their very nature, "aligned to allow all frequencies to reach the listener's ear at the same time (and in phase), just as they do in life." The dynamic drivers in speakers like Wilsons have to be painstakingly re-aligned vis-à-vis one another to approximate the same effect (and then only for one tiny spot). Moreover, unlike Wilsons, omnis have no enclosures that store, reflect, and re-radiate energy out of time and phase.

#### A Question of Balance

I read Daniel W. Murphy's letter ("Thanks for the Memories") in Issue 319. It reiterated the often-stated complaint that TAS (and *Stereophile*) have become too enthralled with hyper-expensive components. There was nothing particularly new in Mr. Murphy's complaint. Your response was also the threadbare "but we review less expensive stuff, too" argument. Both positions avoid addressing the basic underlying issue.

## the absolute sound

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## One Common Thread — Shunyata Research

**HEART SURGERY:** Electrophysiologists operate in conditions critically affected by electrical noise. Anything that will allow the surgeon to see clean heart signals is invaluable to patient outcomes.

**MEDIA REVIEWS:** Almost any product can garner one good review. Earning an array of prestigious awards and reviews from multiple publications indicates a higher standard of success.

**RECORDING INDUSTRY:** The world's most iconic recording professionals are by nature, obsessed with sound quality. No sacrifice is too great to perfect the systems they use to record and master their life's work.

Whether in critical surgery, for home entertainment or professional recording SHUNYATA RESEARCH PRODUCTS STAND ALONE.



## **Heart Surgery**

With *(Shunyata Research designed)* CIS® products, we now have the cleanest 64 unipolar signals that I have seen in any of the labs that are doing Topera Rotor based Heart Mapping.

~ Dr. Bradley Bacik, MD; Director of Electrophysiology, Jefferson Health

Cardiac signals had **jaw dropping** improvements in both resolution and noise to a level that I have never seen, and that I didn't know was even possible.

~ Dr. Daniel P. Melby, MD; Medical Director, Minneapolis Heart Institute

The improvement offered by the CIS® units in our lab has proven to be **invaluable**. They essentially rule out all but external sources of noise. Thank you!

~ Dr Kent Morris, MD; Director of Electrophysiology, Norton Health

#### Media Reviews

The Everest 8000 represents an entirely unprecedented level of performance... the sonic result is **mind blowing**.

~ Robert Harley; Editor-in-Chief, The Absolute Sound

Everest 8000 becomes easily and **universally recommendable**. It gets my vote as one of the best audio values here and now.

~ Marc Mickelson: Editor-in-Chief. The Audio Beat

With the Shunyata power setup in place... the magnitude of noise reduction was startling.

~ Brian Damkroger; Writer, Stereophile

## **Recording Industry**

Shunyata products have **transformed** our Sonoma system, used during the mastering process for the 5.1 mix of 'The Dark Side of the Moon'... Highly recommended.

~ James Guthrie; Grammy-Winning Producer/Engineer (Pink Floyd)

As **unbelievable** as it may seem, there was a greater improvement than changing the whole front end. I could not recommend Shunyata products highly enough.

~ Rick Rubin; Grammy-Winning Record Producer

With digital sources it was almost as if we had switched from 44.1k/16 bit to 96k/ 24 bit. We now run all our analogue machines, workstations and the mixing console from the **Shunyata** equipment.

~ Andy Jackson, Senior Mastering Engineer: David Gilmour's Astoria Studio: UK

www.shunyata.com







## **Letters**

Any publication, whether in print or digital, is only valued by its readers for the "use-ful ideas" it presents. A publication is only worth the reader's time (and in the case of subscriptions, money) if it presents enough useful ideas to justify continuing to spend the time and money necessary for access to those ideas.

At the end of the day, it is a question of balance. I do not deny that the occasional article on some stratospherically priced piece of equipment can be interesting and useful to a segment of your readership. But it may be that two or three such reviews in each issue are too much for a significant percentage of your readers. The reason is simple. Let's look at Issue 319. It contains a review of a \$52,000 equipment stand and a \$89,998 (let's not mince words and just call it \$90,000) reel-to-reel machine. At least for me, and probably many other readers, neither of these articles presents "useful ideas." I will never shop for or use products of this nature. For a variety of reasons, I found exactly one equipment review in Issue 319 to contain "useful ideas" — the review of the BAT VK80i integrated amplifier. As is often the case with TAS articles I find to contain useful ideas, it was penned by Dick Olsher. This is because he usually reviews sanely priced components that have special attributes. Furthermore, his reviews usually contain useful tidbits on topics like system matching or tube rolling.

The other section of TAS that, at least for me, routinely contains "useful ideas" is the music section. Unlike Mr. Murphy, I am willing to maintain my subscription in order to have access to the music section and the occasional equipment review that presents useful ideas. But I understand how easily Mr. Murphy can fall on the other side of that dividing line. Would I be happier with less reviews of hyper-expensive components and more reviews of unique, rationally priced equipment? Absolutely.

At the end of the day, TAS would probably benefit from limiting reviews of hyper-expensive components to one every two or three issues. Use that space for reviews of more rationally priced equipment or interesting thought pieces such as Alan Taffel's excellent two-part article on compact systems in Issues 316/317. It would give the magazine a better balance where a higher percentage of your readers find useful ideas. Remember, just because y'all are interested in how a \$52,000 equipment stand performs in the context of an unbelievably expensive audio system, doesn't mean the rest of us are. When I mentor folks who are interested in achieving better home audio, the starting point is usually, "What can I get for \$5000?" And that's for the entire system.

David P. Banowetz

RH replies: Wasn't the issue with the \$52,000 equipment stand the same issue with reviews of the \$699 per-pair Polk R200 loudspeaker, the \$1695 NuPrime AMG STA power amplifier, the \$1795 AMG PRA preamplifier, the \$3650 Gold Note DS-10 Plus streaming DAC/preamplifier, the \$3950 Hana Umami cartridge, the \$6250 Audiovector R1 Arreté loudspeaker, the \$9999 BAT VK80i integrated amplifier, and 16 products priced under \$5000 that were given Golden Ear Awards?

#### **Second Thoughts**

Upon reading my letter in print [castigating Jonathan Valin for criticizing Stereo Review's position that the THD spec defined an amplifier's performance, Issue 319], my comments were a bit caustic, and I apologize for that. However, my response was not to just one "seemingly innocuous statement." Rather it was a response to the seemingly frequent shots over the past three decades by high-end magazine writers taken at Stereo Review, and Julian Hirsch, in particular.

The point I was trying to make was that *Stereo Review*, *High Fidelity*, and *Audio* did a service to the audio industry by introducing many to hi-fi, keeping us interested, and influencing us to buy and upgrade components. This paved the way for the future of audio. Later high-end magazines further refined the reviewing process and improved on the definition of what constituted quality audio.

In the age of demeaning what has come before and judging early pioneers in all fields of endeavor by today's standards and with today's knowledge, I prefer to look at

the good that was done and not nitpick the errors. Those magazines are long gone, and the reviewers mostly gone, let them RIP.

**Charles Proctor** 

## Pressing the Reset Button on Audio

Generally speaking, when I receive my new TAS issue, I skim the magazine, focusing on the letters, From the Editor and the music reviews sections first. Once I'm finished, the magazine goes on my pile, so I am two, even sometimes three, months behind a "thorough reading" cover to cover, which I greatly enjoy doing. This issue however, caught my eye and has compelled me to write. In order of my observations:

1) Neither Jonathan Valin nor TAS needs my defense, but let me say to Mr. Proctor [see the previous letter] that I am a product of Stereo Review and specifically Julian Hirsch's writings and reviews. When my buddies and I got into two-channel stereo in the mid-to-late 70s and then into the 80s after we got out of college and had some dollars to spend, when it came to amplifiers—whether they were from Pioneer, Onkyo, Marantz, Kenwood, Yamaha, or even Sherwood-it was all about two things: watts per channel and total harmonic distortion. The higher the watts per channel and the lower the THD meant the more you coveted that amplifier for your system. Period. And I might add, we all thought solid-state was the technology to use and that the use of tubes [was antiquated]. Fast forward 30 years. I re-entered the two-channel home-system hobby, subscribed to both TAS and Stereophile, and bought Robert's book, The Complete Guide to High-End Audio. And that opened my mind, eyes, and ears. I sold off all of my Pioneer Elite components, pressed the "reset button" on what I thought I knew, and slowly re-built my system. The bottom line? What I learned from reading Stereo Review back in the day was not entirely accurate, particularly as it related to what makes a great amplifier and, tangentially, to solid-state vs. tubes. So, ves, what Jonathan alluded to or wrote about Stereo Review (or more specifically, Julian Hirsch) was dead-on accurate. And if we are honest with ourselves,

## **Letters**

- every person coming out of the mid/ late 1970s can relate to what he wrote.
- 2) The letter which chastised TAS for covering equipment which was far too expensive to be relevant is am old song. Using the perhaps tired analogy to another expensive hobby, automobiles and motorcycles, there are plenty of very high-end (read expensive) cars and bikes that I am interested in reading about but will never own-either because I cannot afford them, or choose to spend my dollars elsewhere. But can we stop with the drone about how TAS only covers equipment that lives in the stratosphere of pricing? It is simply not true, and, again, my system is testament to the guidance offered by TAS and is certainly within my wheelhouse of affordability. And yeah, I like reading about the really high-end equipment. Do I shake my head sometimes about the cost? Sure, I do, but that does not take away from [the pleasure of] reading about the design, technology, or whatever else that makes the product so unique and expensive. I am
- a big believer in the "trickle-down" effect of design improvements in our hobby over time. We see the same phenomenon with respect to both cars and motorcycles all the time. So, please keep on keeping on!
- 3) I have a pair of Harbeth Super HL5s, which I purchased for my system based upon reviews and commentary in TAS. They are wonderful. That said, I also know what TAS thinks about Magico or Wilson with respect to very high-end speakers. And so Jacob Heilbrunn's comment on the Oswalds Mill Audio Imperia loudspeaker [Golden Ear Awards, Issue 319] begs for a thorough, perhaps even a cover article review in TAS. When was the last time a horn speaker was produced? And the look? Wow! I hope a review by TAS is forthcoming!

**Jeffrey Mead** 



The Absolute Sound's High-End Audio Hall of Fame; three new inductees

#### **Digital focus**

- · Linn Klimax DSM music server
- iFi Zen Stream streamer
- iFi Zen Signature DAC
- Cambridge DacMagic 200m DAC
- Sonore optical Module Deluxe optical isolator
- Hi-Fi Rose RS150B streaming DAC

Mark Levinson 5000 Series amplifier, preamplifier, and streaming DAC

Cabasse Pearl Akoya powered DSP speaker

Absolare Hybrid Stereo power amplifier

T+A Caruso high-end tabletop system

**NXEars Opera earphones** 

Phonostages from Nova and Coincident



## From the Editor

## **Succession**



irtually all the high-end audio companies we now think of as "the establishment" were once nothing more than one person with an idea. That idea was to create a component for reproducing music in a new and better way than was possible

at the time. Most of these company founders had absolutely no intention of creating a business; they simply wanted to build a device, for their own use, that would take them closer to the music.

The number of now-iconic companies that were founded in this way is astounding. The young Arnie Nudell had a successful career as a laser physicist when he built a servo-driven woofer and mated it to an electrostatic panel, simply because he wanted to hear bass reproduction in his home that was a closer representation of what he heard in the concert hall. Jim Winey of Magnepan tried to buy a pair of planar loudspeakers at Bill Johnson's retail store, only to be told that they were prototypes and not for sale. (Johnson would, of course, go on to found Audio Research.) So, Winey, an engineer at 3M, envisioned a planar-magnet transducer of his own and built the first Magneplanar. Ivor Tiefenbrun, discovering how vibration affected turntable performance, set about to make a better 'table in his father's machine shop in Linn, Scotland. Recording engineer David Wilson needed a high-quality, portable location monitor, so he created what would become the WATT. The list goes on and on.

These people did not plan to go into business—and then ask themselves what type of consumer or industrial product they would manufacturer. Rather, the business sprang up as an offshoot of their pursuit of musical truth. That fact alone says much about the industry.

About 20 years ago, I began to worry about the future of highend audio because these founding visionaries wouldn't be at the helm of their companies forever. Many of their firms were started in the 1970s, and it wouldn't be too long before they would be led by different people, maybe even corporate entities, who didn't share the founder's passion and ethos—how could they? The corporate "suits," I assumed, would cynically exploit the company's brand name and reputation, churning out lower-cost and sonically compromised products. We saw that happen to such venerable brands as Acoustic Research and KLH from an earlier generation.

Fortunately, my fears were wildly exaggerated. Nearly all the companies that innovated in the 1970s and 80s, the firms that collectively built the industry, are thriving today. Even more surprisingly, the audio manufacturers that were acquired by corporate holding companies have largely maintained the integrity of their brands and stayed true to their founders' visions. For instance, French speaker manufacturer Focal, first formed with

About 20 years ago, I began to worry about the future of high-end audio because its founding visionaries wouldn't be at the helm of their companies forever.

the idea of pursuing innovations in driver technology, continues to lead in that area, most recently with its Slatefiber cone. Bowers & Wilkins, which has changed ownership several times recently, nonetheless continues, apparently uninterrupted, its long history of building better and better loudspeakers (see Industry News in this issue). MartinLogan, also owned by a holding company, has advanced the electrostatic driver technology pioneered by Gayle Sanders in the 1970s. ML products have never sounded better or been built to a higher standard. A few other examples of corporate-owned brands that have stayed true to the ethos of their founders: McIntosh, KEF, Naim, and Sonus faber. Great marques that have been acquired by individuals who share the founder's ethos include Audio Research, Conrad-Johnson, YG Acoustics, and Rockport Technologies.

The other model for succession is to pass the company to a family member rather than sell to a corporate entity or private individual. Vandersteen Audio, dCS, Basis Audio, PS Audio, Audiovector, Cardas Audio, and German turntable manufacturer AMG

are following this path. The most prominent and successful example of keeping the company in the family is Wilson Audio. Daryl Wilson, son of founders David and Sheryl Lee Wilson, has not just maintained Wilson Audio's product and brand integrity, he's taken the company and its products to the next level through technology advancements and his own aesthetic.

I once worried that many legendary brands would suffer the fate of loudspeaker maker Thiel Audio. After the passing of Jim Thiel, the company was sold, and the new owners immediately scrapped the foundational technologies that made the company successful: first-order crossovers and sloped baffles that create a phase-coherent wavefront at the listening position. The new Thiel line looked like "me-too" boxes, and customers looked elsewhere. The company folded soon after.

Fortunately for all of us, Thiel was the exception rather than the rule. With our beloved marques in good hands, and a new generation of extremely talented designers—Florian Cossy of CH Precision, Michael Børreson of Aavik Acoustics and Børresen Acoustics, and Javier Guadalajara of Wadax, for examples—the high end's future has never looked brighter.

**Robert Harley** 



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## INDUSTRY NEWS

## Bowers & Wilkins Introduces Upgraded 800 Series Diamond Line

Robert Harley

#### Venerable British loudspeaker company Bowers & Wilkins

has spent the past six years researching and developing technologies to improve the performance of its already outstanding 800 Series speakers. The result is the new Diamond D4 line, which consists of five stereo models, ranging from the two-way standmount 805 D4 at \$8000 to the flagship 801 D4 at \$35,000 (all prices per pair). The company has reintroduced the iconic 801 moniker for the top model, replacing the 800 D3. Two center-channel speakers are also included in the new series, for a total of seven new products.

The line has been substantially re-engineered, starting with a new cabinet design that is reportedly stiffer and quieter than those in the previous generation. Controlling enclosure resonances has always been an important design goal in the 800 Series-B&W's Matrix internal-bracing structure (see photo next page) has been in use for more than 30 years, for example. The top panel is now made from cast aluminum, rather than wood, for greater rigidity. The "reverse wrap" cabinet structure, previously reserved for the three top models in the line, is now employed on every model, including the stand-mount 805 D4 (the 805 D3 was built as a conventional box, albeit with curved side panels). I visited the Bowers & Wilkins factory in 2019 and watched how cabinets are made using the "reverse wrap" technique. The cabinet starts as thin layers of wood stacked with an alternating grain pattern and an industrial adhesive between each layer. The assembly is put in a press that bends the wood into the rounded cabinet shape and held in that position until the adhesive cures. An aluminum "spine" is mount-

ed in the opening at the back of the cabinet, adding rigiditv. This construction method also results in a smaller and rounded front baffle, reducing diffraction. For the new D4 series, each model's baffle is reinforced by an aluminum plate, which is also braced to reduce resonances. The classic Matrix bracing structure is now made from thicker panels of plywood rather than MDF, with strategically placed aluminum supporting braces, again to stiffen the cabinet. The midrange drivers are mechanically decoupled from the cabinet, and are fitted with Tuned Mass Dampers (TMD) to further reduce unwanted resonances. Finally, the top 801 D4 features a solid-steel bottom plate around the downward-firing port.

The 804 D4 (the lowest-priced floorstander) is now mounted on a plinth made from steel sheets in a constrained-layer-damping structure (the 804 D3 lacked the plinth and downward-firing port of the 803 D3 and 800 D3). The 804 D4 also features much larger spikes.

The new cabinets also benefit from cosmetic upgrades. The aluminum top plate is clad in black or light grey leather, and a fourth cabinet finish has been added, with satin walnut joining gloss black, white, and satin rosenut.

Bowers & Wilkins made big strides when it replaced the Kevlar cones with its Continuum Cone combined with its Fixed Suspension Transducer (FST) technology, the latter a novel surround that reduces the surround's effect on the sound. In researching sources of driver colorations, Bowers & Wilkins discovered, surprisingly, that the fabric spider behind every cone introduces distortion simply by its own movement. In essence, the spider acts like a second diaphragm, producing unwanted sound. The spider is a doughnut-shaped ring that attaches



A speaker cabinet being made using B&W's Reverse Wrap technology. In the first step, thin layers of wood are stacked together with an industrial adhesive between the layers.



In the second step, the layers of wood are put into a press and held there until the adhesive cures and the wood/glue assembly has been bent into a rounded cabinet shape.



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- Reliable Networking Platform with web-based setup and over-the-air updates
- Next-Generation DSP Platform
- MM Phono Stage

Included with AVM Series Processors:



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- Crafted in Canada



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## Industry News Bowers & Wilkins 800 Series



A partially finished cabinet shows the wood layers.



Bowers & Wilkins' Matrix bracing assembly has been used for over 30 years to stiffen cabinets.



A conventional spider acts like a second diaphragm, producing unwanted sound.



Bower & Wilkins new Biometric Suspension functions like a spider without added distortion.





805 D4.

803 D4 (left) and flagship 801 D4 (right).

to the speaker basket at the spider's outside diameter, and around the voice coil at its inner diameter. The spider's job is to prevent the cone from moving in any direction other than back and forth. Bowers & Wilkins has reimagined the spider as a minimalist open structure made from a stiff composite material that keeps the voice coil and cone in proper alignment, yet doesn't generate any sound of its own. The company claims that this development, called Biometric Suspension, dramatically increases midrange transparency and realism. The new suspension is used on the midrange drivers throughout the 800 D4 Series.

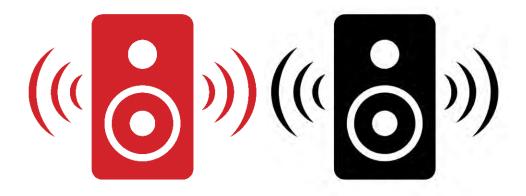
The bass drivers have also been redesigned, with revised motor systems along with the Aerofoil Cone, a diaphragm made from carbon-fiber skins around a light foam core. The core thickness varies to deliver maximum stiffness where it's needed, while keeping mass low.

Given the performance and value of the previous generation 800 Series, we're eager to put this new line through its paces. Watch for our reviews of the 805 D4 and the flagship 801 D4 in upcoming issues. tas

801 D4: \$35,000. Three-way, four-driver floorstander. 802 D4: \$26,000. Three-way, four-driver floorstander. 803 D4: \$20,000. Three-way, four-driver floorstander. 804 D4: \$12,500. Three-way, four-driver floorstander. 805 D4: \$8000. Two-way, two-driver stand-mount. HTM81 D4: \$7500. Center-channel speaker. HTM82 D4: \$5500. Center-channel speaker.



audience



### A Primer on Realistic Music Reproduction

Robert E. Greene

THIS December 14 will mark 90 years since Alan Blumlein submitted his patent application in England for much of what would turn out to be the future of stereo sound reproduction in the home. The patent application is a startling document in the variety and depth of the ideas presented. It would not be outrageous to call it a work of genius. But Blumlein was not alone. At about the same time, a group at Bell Telephone Laboratories was developing an alternative approach to how to use two channels to create musical realism. The historically minded can find copies of the recordings that Blumlein made to demonstrate his methods (youtube.com/watch?v=KD3HBbtN9ak, youtube.com/watch?v=gfWuIEgGU). And they can also find the Bell Labs recordings (youtube.com/watch?v=e0qzIZaiPFs; youtube.com/watch?v=0ZtQuqtCpv0). History was being made, and it was also being recorded.

The two developments were independent and essentially simultaneous. Simultaneous independent discoveries are common in science. But this one was somewhat different, because the goal of making two-channel music reproduction realistic was, in fact, accomplished, or at least attempted, in two quite different ways. And these two different approaches have lived on to the present day. Stereo would come to dominate the world of music reproduction in the home, but the triumph would be a mutual one: Two different ways of making stereo recordings would share dominion, like the two consuls in ancient Rome sharing power. And associated to this, two different ways of playing back two-channel recordings in the home would arise. This is to be the subject here. We may think of "stereo" as one thing, and we may have the idea that there is only one way to make it sound right, or at least one best way. But as we shall see, the division between the original approaches of the early 1930s have lived on in a dichotomy about what ideal stereo playback involves. And these seemingly abstract matters turn out to have real relevance to the practical matter of how to make your stereo system sound realistic.

#### In the Beginning: Blumlein's Method

How stereo of either kind works in detail is somewhat intricate in terms of the mathematics and physics involved. But we do not need to go into detail to understand the general picture. Let us just do what Einstein used to call a thought experiment. Imagine you are sitting in front of a group of musicians performing and that you want to record and reproduce what you are actually hearing. One way to do this is to realize that what happens at locations other than your own does not matter. All you really need to reproduce is the soundfield where you are. Let us ignore the vertical part of the soundfield. Most music does not involve the height of sound sources very much. But even horizontally arriving sound can come from different directions. If you just record the sound with one omnidirectional microphone and play the recording back with one speaker, it will not sound like the real thing because all the sound will come from one direction—the direction towards the speaker. But Blumlein knew, as in fact physicists had known all along, that horizontal sound is what is known as a "vector." If you add otherwise identical sound coming from two different directions, you get a sound that sounds to the listener like a single sound coming from some direction other than from the speakers themselves. This is literally true, in the physical sense. A sound from 45 degrees to the right and the same sound 45 degrees to the left combine in air to form a sound that is identical to what the sound would be if it came from a point straight ahead (with an altered volume). This is true physically because (techno warning) the wave equation for sound in air is "linear."

But the important thing for us is that this works not just physically but audibly, when you are there listening. And, in fact, it works if you want to give the impression of the sound coming not just from straight ahead, but from, say, 25 degrees to the right: All you have to do is put more of the sound in the right channel than in the left channel. This will move what today we would call the stereo image to the right.

You can try this for yourself. Play a mono source through two channels and use a balance control to move the relative amounts from the two speakers to be more from one than from the other—the apparent sound source moves toward the louder speaker, but, with moderate imbalance, not all the way.

Now if you know something about psychoacoustics, you are probably thinking, "But what about phase?" We all know that if we reverse the polarity of one channel, then equal volumes in the two channels no longer produce a center image. But what Blumlein figured out—and here we get away from the commonsense aspects of this—is that for reproducing sound sources within 45 degrees of the forward direction and with speakers 45 degrees on either side of the central axis, the phase takes care of itself. The sound bending around the head acquires just the right time delay to make the phase effects come out right. If you maintain the right relative amplitude of sound in the channels, the image will focus very well in the direction you want it to be.

This is where we would have to go for some math if we really want to see how this works exactly. But let us skip that part here and leave it to Stanley Lipshitz (who does a good job of the argument), if you really want to get into it (secure.aes.org/forum/pubs/journal/?elib=5246).

Blumlein made all this practical by figuring out that the right balance between left and right channels to get things in the correct directions horizontally could be arranged not one source at a time but for all (frontal) sources, if you used the right kind of

microphones for recording—namely two figure-eight pattern mikes at one point, one pointing 45 degrees left, one pointing 45 degrees right.

Maybe this all seems too good to be true. But it works. And people are still doing it today. When the Berlin Philharmonic set out to make a super-recording of the Brahms symphonies a couple of years ago, direct-to-disc even, Blumlein stereo was what they used. Ditto, Sheffield Labs' recording the Los Angeles Philharmonic years ago, and Kavi Alexander/Water Lily Acoustics in Philadelphia and in Russia in the late 1990s and early 2000s.

So much for sound at one point. The Blumlein method works. But there is another way.

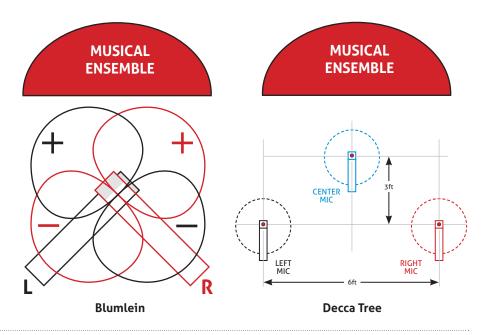
#### In the Beginning: The Whole Soundfield via Huygens' Principle

Again, imagine sitting in front of a group of performing musicians. Why be content with the sound field at the one point where you are? Why not get the whole frontal sound wave coming out from the musicians to all the places around you, many seats over, right or left of where you are? Why not get the whole thing?

A glorious dream. But there is a problem. The whole sound-field has a lot of "degrees of freedom." It is a lot more than only two-dimensional, the way the soundfield at one point was. We are asking for more, so we are going to need more microphones and more playback channels. But again, lurking around in physics there is a not so familiar fact called Huygens' Principle (after Christiaan Huygens, 1629-1695). Translated into audio terms, Huygens' Principle says that if you record the sound from a whole lot of positions in the front of the musicians using omnidirectional microphones, and play back those recordings later, but simultaneously, through a whole lot of omni-radiating speakers placed at the same positions as the microphones were, the sounds will all combine to give the original soundfield radiating out into the room. (In practice you do not need omni speakers—just wide frontal radiation).

#### How Many Microphones, Channels, and Speakers Do You Need?

In principle, you need infinitely many and not just in a horizontal row. But it turned out that even just three was remarkably convincing, And there we are, with the three-spaced-omni recording technique. And to some extent, it kept on working pretty well if you only used two speakers but three microphones, with their signals mixed together into two channels. Even two microphones would give something that was acceptable stereo (cf., the recordings by Marc Aubort for Vox years ago—not perfect as stereo, but in the right hall and with the right mike placement, things of beauty).



The success of such a small number of channels in the Huygens' Principle situation is a surprise. The ear/brain apparently wants to make sense of things when it can, and it takes the partial information by three channels mixed to two, or even two themselves, and runs with it. This does not work well as mathematics, but it sounds much more convincing than one would expect from mathematical theory alone. A listen to a three-microphone Telarc recording will make the point emphatically.

#### **Playing It Back**

At first sight, it is not obvious that for ideal playback the two ways of making stereo recordings call for different kinds of playback. But in practice they do. Blumlein stereo is based on nothing arriving at the listening position except the direct sound. It works best

with highly directional speakers that put little sound out into the room, except directly at the listener. Huygens' Principle stereo is only reproduced correctly if the speakers used are omnidirectional (or at least uniform in pattern over their whole frontal half-space).

And so the world divided. Historically, Europe tended towards Blumlein recording or variants of it, and people evaluated speakers primarily according to their direct-arrival frequency response, the "on-axis" response. One sees this to this day. Hi-Fi News publishes on-axis measurements of speakers, with no information on off-axis behavior being really considered. This follows the old BBC tradition of using monitor speakers listened to in large but heavily damped control rooms, with the listener close to the speakers, playing recordings made with a crossed pair of ribbon figure-eight mikes (Blumlein recording). It worked and it still does. But the configuration needs to be as described. An alternative is to use highly directional speakers. Blumlein stereo on Acoustats or, today, Sanders electrostatics

almost breaks the barrier between live and reproduced for Blumlein recordings.

But in the USA, where spaced-omni miking was more popular, and pure Blumlein recording was a comparative rarity, speaker design turned towards emphasis on "power response," stressing the total acoustic power generated as a function of frequency. This school of thought was represented by Acoustic Research (AR), KLH, and Allison, in particular. This continued for a long time. The AR 303, which appeared in the mid-1990s, featured a wide, uniform-radiation pattern frontally, across the midrange and on up to about 6kHz. (Full disclosure: I own a pair of these and use them often, suitably EQed a bit, for listening for pleasure.)

It is worth noting that both Blumlein/vector stereo and omni-miked/Huygens' Principle stereo are anechoic playback systems, in principle. Neither offers any paradigm for room-sound contribution. But *de facto*, the latter uses the room more than the ideal form of the former. This is more than a practical matter of omni speakers involving the room more by nature. Spaced-omni stereo actually needs room sound to work well. If one listens to it with two or three speakers anechoically, playing back a two or three microphone recording, one hears all too well the "holes" that arise from the spaced microphones. One really needs more channels if one is going to use the system anechoically. But the room sound smooths things out and the holes become less obvious.

#### Why Not Blumlein?

Since it is not practical to execute Bell Labs/Huygens stereo with as many channels as it needs to work close to ideally, the

question comes to mind, why don't people just use Blumlein instead, which works as it should with two channels? The answer to this is compound. First of all, Blumlein is by nature a whole-event recording technique. It is not intended to be put together from pieces. Pure pan-potting can be assembled from multiple sources, but since Blumlein stereo includes ambience as part of the pick-up, combining different sources becomes difficult. Combining multiple Blumlein channel pairs results in a confused picture. And commercial recordings often need to be assembled from pieces, especially for popular music. There may not even be any one acoustic performance to record.

A second point, which applies even to events that are a single performance to be recorded, has to do with the microphones themselves. The figure-eight microphones needed for Blumlein recording did not, historically, sound as good as omni microphones. And (dipole) figure-eight microphones had particular problems in the bass and also in uniformity of pattern off-axis.

They are better now. But the bass is still basically better with an omni mike, which is by nature extended down to DC, while a dipole mike, like a dipole speaker, has an acoustic roll-off as frequency falls and has to be EQ'd to extend into lower frequencies. A dipole microphone has zero output at DC.

In the end, recording engineers were willing to sacrifice the perfect stereo of Blumlein for the more attractive and accurate tonal character of omnidirectional microphones. (Michael Gerzon's Ambisonics solved this problem by combining a Blumlein pair with an omni microphone, achieving remarkable results, albeit via a relatively complex system that required electronic manipulation, The results are outstanding, but audio being the conservative place it is, this system did not achieve anything like the widespread use it deserved.)

In the end, recordings have ended up in most cases being a

sources.

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kind of hybrid of spaced omnis and close-up omni microphones of individual sources, mixed in via pan-potting to make a kind of stereo that is neither fish nor fowl, surely not Blumlein but not purist spaced-omni Huygens' Principle stereo, either. And playback has ended up being—well, sort of by guess and by golly.

#### **How Should One Play Back Music?**

As often happens in two-sided controversies, both sides of the speaker controversy were at least partially right. As the BBC and other Blumlein advocates claimed, speakers do need to be flat in direct arrival, anechoic-flat on axis. But the Allison et. al. belief that power response is important turned out to be right, too. You can check this out for yourself. Play a pink noise signal through a single speaker and listen up close. This is more or less the on-axis response (above the bass anyway). Stay on axis but back up. The sound will change, usually losing energy in the top and in the presence range. At a certain distance it will stabilize

and will not change very much as you move a bit farther back. Way far back, you will be mostly hearing power response and the sound will not change very much, even if you move to a position where you are not on axis to the speaker at all, except in the really high frequencies—there you will be losing some, if you are not getting direct on-axis arrival, unless the speaker has a very wide, even omni radiation pattern. So how far back do you have to go to get a stable situation? That depends on the frequency. In acoustics, the point at which the overall room sound equals the direct arrival sound

is called the "critical distance." It depends on how directional the speaker is—farther back when the speaker is highly directional—and on how "live" the room is—farther back when the room is dead, closer when it is very live.

Things are getting complicated! To the fact that the recording situation is not unified is added the fact that how speakers sound is an interaction between the speaker and its radiation pattern and the room acoustics. And to make this even more complicated, the almost overwhelming fashion for narrow-front floorstanding speakers has forced a situation where the radiation pattern of speakers is not completely controllable. A box speaker is omni in the bass, but at a certain frequency it shifts to being primarily a forward radiator. This "baffle step" happens at a lower frequency for wide-baffle speakers. A speaker that is, say, 18 inches wide will have a baffle step frequency of around 250Hz. But for a narrow-front speaker, the baffle step frequency goes up, typically to around 500-600Hz or even higher.

Does this matter? Yes. At 250Hz, power response dominates the sonic picture at any reasonably large listening distance. So, one can switch radiation pattern without much problem as long as the response is done correctly. But at 500Hz one is getting into the region where the direct arrival and the power response both count. One cannot make both sound right. And by 1kHz, disas-

ter is on the book. One cannot make both aspects of the sound match up well at all.

Speaker designers are well aware of this situation. And the approach has been developed of making the speaker smoothly more directional as frequency rises. There has been proposed a standard that directivity should increase 1dB per octave from bottom to top, on the grounds that abrupt changes in directivity tend to sound like colorations and that speakers need to be more directional in the top frequencies. Speakers with flat power response tend to sound too bright in practice, on account of how recordings are mostly made.

The trouble with this is that it involves pushing the power response too soon, at too low a frequency. Speakers like this sound (to me) dead and lifeless, unless one sits really close to them.

And it is important to notice that there is no situation in real life in which the response of a musical instrument is rolled off one dB per octave. Concert halls roll off the extreme top in the

reverberant field and they lift the bass, but the midrange is typically flat.

Have a look at Suntory Hall for example, a hall very well regarded by musicians (nagata-i.com/wp-content/uploads/2019/06/Suntory\_NAGATA.pdf). Its reverberation time is essentially constant from 200Hz to 4kHz, and constant reverberation time means constant energy response for the reverberant soundfield. The 1dB-per-octave rolloff idea is strictly an engineering concept, having almost nothing to do with actual musical experience. It sounds smooth but dead.

My personal experience has been that

one needs a low frequency for the baffle step—a wide front in other words—and then a reasonably constant directivity up to around 4kHz or at least to 2kHz. And one needs to direct the early reflections away from the listening position. (More on that another time.)

There is also the issue of what to do about diffuse field versus frontal arrival, which calls for a dip at around 3.5kHz (theabsolutesound.com/articles/in-memoriam-siegfried-link-witz-1935-2018).

When one looks at all the off-axis graphs around, it is easy to have one's eye glaze over and to think, please, I just want to hear the music. But these things matter. They matter a lot. And they go a long way towards explaining why speakers sound different from each other.

Everyone needs to be aware that there are choices and compromises involved in all these matters. There is no single, unique true path. And if you really care what your audio system sounds like, as I am sure you do, you ought to think for yourself about what your speakers are actually doing and not just buy into the views of others or statistical reports on what other people like, which are sometimes passed off as "science." Somewhere out there is the compromise you will like the best. But you will probably have to listen hard for yourself to find it. **185** 





## The Quest for the Other Half of The Absolute Sound

Anthony H. Cordesman

IT HAS OFTEN SEEMED to me that high-end audiophiles only engage in half of the search for the absolute sound: the home-play-back half. Most of the time, they never examine the high-end character of the recordings they use—a given recording's audio "provenance." We can focus in incredible detail on tweaks to our home systems—like elevating audio cables or adjusting our turntables—but we normally ignore every step in the audio chain from the original performance to the moment the recording arrives in our system.

Few of us would buy a bottle of wine, a picture, or an antique on that basis. We would want to know its source, how it was prepared, its style, and its history. Yet most of us are willing to ignore the fact that virtually every recording involves far more steps that shape and color its character *before* it becomes an LP, a tape, a CD, a DVD, or a stream than it does when we play it back at home.

Unless a recording is made in the simplest way possible—and few are—it will have far more active and passive electronic stages than even the most complex high-end system, and each such stage will not only have its own limits and colorations but will also be affected by the people who chose each stage and how it was adjusted and used.

#### The Importance of Audio Provenance

Put simply, the colorations in making a recording are at least as important as the colorations in a home-audio system. The final version of a recording reflects the impact of the entire chain of equipment used to make and process that recording. It reflects the particular colorations imposed by the active components like the microphone, tape recorder, cutting electronics and lathe, A/D systems, and/or digital storage systems used. In addition, it is subject to the same impact that cables, power, minor components, vibrations, and resonances have on a high-end system.

In practice, it will have at least twice as many different components adding colorations as a home high-end system does—many of which can color the system more than high-end electronics. Moreover, most recordings reflect far more personal or marketing choices than any given audiophile makes in choosing his playback system. These choices include the person(s) making the original recording, whose choices about miking and mixing during the actual recording can be critical. They will also include the choices of any of the additional recording engineers, technicians, and producers who master what goes into the final recording that is actually sold—plus any musicians, singers, and business

personnel who become involved in selecting the final version. Every individual involved will have his own approach to working around the limits of the available equipment, the available technology (at the time), the particular musicians and venue involved, and the given budget.

#### The Importance of Venue, Voice, Musical Instruments, and Miking

Audiophiles spend a lot of time on listening-room colorations, but the acoustics of the place where a recording takes place will has at least as much impact on the sound as an audiophile's listening room has on home playback. Anyone who has spent time in different concert halls, clubs, and recording studios—and has listened therein to the sound of given instruments and voices—knows that the sound of recordings will differ sharply with venue. Anyone who has moved through different parts of a venue during rehearsals or a live performance has heard just how different the sound is in different places in that venue. Try

walking through different concert halls during a nearly empty rehearsal and listen to how much the sound changes when that hall is filled with people, and how much the music changes as you move back and forth from the front to the rear, the center to the side, or the ground floor to the upper level of many halls. Even the same venue can change sharply if its acoustics have been altered over time—a process that can often improve sound and just as often make things worse.

Even with live recordings, conductors and musicians hear a different mix of energy than the audience, which itself hears different sound depending on where listeners

are seated relative to the performers. Recording a performance in a different location from the areas where artists normally perform live music has a different impact on the sound, as does recording with a full or no audience and in a usually absorptive or reflective hall. The amount of reflected energy can change radically what one hears live.

Voices, types of voices, musical instruments, and the tuning of instruments sound better in some locations than others. Efforts to recreate "historical" instrumentation or vocals are often uncertain at best, and even something as simple as changing the strings of a violin or choosing a piano tuner can alter the sound. Having lived for some years in Europe, I've been struck by how different instruments from roughly the same period can sound, even if they have been preserved in museum collections. It is also important to realize that there is no single musically natural sound.

Even with live recordings of an actual performance, the choice and placement of microphones and the number of tracks recorded has a critical impact on frequency balance, soundstaging and imaging, and dynamics. This is true even when the miking is simple and straightforward. In contrast, any form of complex miking of voices or instruments, and the use of multitrack recording to spotlight or alter the balance of voices and instruments, has a major impact on the sound, as does close miking, which tends to elevate upper-midrange energy—particularly of strings and woodwinds. At the same time, immersive live recordings normally have a different frequency balance than ones miked from an audience perspective.

In many cases, recordings are not really "live" in any normal sense of the term. A recording may be made in a studio, use additional microphones to highlight given performers, add a singer to an earlier recording, or assemble a "performance" from different performers and takes—sometimes adding voices or creating a wall of sound. The apparent location or movement of a singer or musician on the "soundstage" may or may not be natural—as may the level, duration, and actual existence of applause.

Musical sound does not have to be actually "live" to produce the high sound quality and a convincing illusion of "live music" in a home system. Great wines and malt whiskeys are sometimes

blended. So are many great classical orchestra and rock recordings. There is a sharp difference, however, between issuing a recording that chooses the best out of multiple takes of all the musicians involved, performing as they would live, and modifying and "assembling" the music.

Recordings differ sharply as to the extent to which they are modified and/or assembled for the final commercial version, and the nature of these efforts should be part of a recording's provenance. One thing is also all too clear from a high-end perspective. If musicians are recorded separately, if a voice is overlayed over the music, if the character of the voice or music is altered to

cope with "problem" singers or players, or if the recording medium alters frequency balance and dynamic range, the audiophile ideal of having a home system that sounds like "live" music becomes a bit absurd. If anything, the best sound may often come from a recording that does not sound like "live music."

Even with live recordings, conductors and musicians hear a different mix than the audience.

#### How "High End" Is the Recording Process?

The issue of how "high end" the equipment used in the recording process is is equally important, and this goes far beyond given tape machines and ways of cutting a record. I've been in enough recording studios and recording venues to understand that some engineers use a lot of very ordinary audio cables, equipment, and monitor speakers—not to mention a few cases of mid-quality earphones. I can't speak to the level of engineering quality in the analog mixers and equalizers, or the digital side of equipment, but the sound I've heard has sometimes been mediocre at best.

If you are a fan of older classical, jazz, and popular music recordings—and any recording made before reel-to-real tape acquired something approaching high-end sound quality and some degree of standardized equalization in the 1950s—you may face a wide range of choices in adjusting every aspect of the original

recording to compensate for the technical limits of the day.

The original recording may or may not have had any form of standard equalization—either on the original analog disc or first versions of analog tape—and few modern preamps offer any option for records other than RIAA equalization. The recording may have been compressed or limited; the tape may have had speed errors; and sometimes its frequency response was limited.

Moreover, a fair number of LPs or analog tapes (particularly foreign LPs and pre-Dolby tapes) were originally recorded or processed using different equalization curve standards. There are a number of guides on the web that try to list these differences by recording company, and some that suggest ways to correct the equalization used in U.S. phono and tape preamps, but they do not always agree or trace the entire history of a given recording. I know from my own experience that some older LP and tape recordings of radio broadcasts—and some "live" chamber music recordings—were done on machines that had individual tweaks to their equalization by a given engineer.

If a recording was originally made on something approaching a "modern" professional open-reel tape recorder from the late 1940s onwards, the individual tape machine's recording speed, equalization, and manual adjustments would also have been critical, along with all of the other adjustments and dubbing choices the recording engineer could make to the original sound.

From roughly the mid-1960s on, the original recording was generally made on a multi-track tape recorder, and the "master-tape" that finally emerged used a mix of tape recorders to add tracks or echo, each with its own adjusted speed, phasing, and flanging. Even when Dolby came into common use, such recordings also varied sharply in technical performance, deep bass and high frequency distortion, speed, number of tracks, and adjustment capability over time.

Tape condition and age affect every aspect of remastered LPs, analog tapes, CDs, and other digital recordings that use older recordings as their source. In many cases, the analog tape used in more recent reissues of an original tape recording involves a whole new remastering effort. This remastering may or may not really be a true "mastertape," as distinguished from a dub, and may be the equivalent of a file copy that could be a third or more generation removed from the original. Analog tapes can also age badly if they are not properly stored, wound in reverse [tailsout], and handled over the years. Remastering also often involves "baking" a tape in an oven to restore it, rewinding a now fragile tape several times, using a worn or stretched tape, or dealing with "print-through."

The choice of tape speeds, equalization, and setting levels both in terms of frequency response and dynamic range are critical. As was touched upon earlier, European and foreign masters were made with different equalization and calibration than the standards common in the U.S. Some degree of tweaking was common even in the same U.S. companies, and tape recorders not only evolved steadily over time but aged as well with use. There were some great efforts to treat mastertapes in high-end terms, as with Mercury Living Presence. There were also many far more

pedestrian efforts that were cost-driven rather than quality-driven.

A so-called "mastertape" used in making a more recent recording can have its own provenance. It may or may not be an actual "master," and it also often involves playback using a different or newer tape recorder with significant mechanical differences from the original machine, one whose heads have been restored, and one whose electronics have been "restored" and/or modified.

Remastering—particularly of European tapes—may or may not require re-equalization. Tape-to-tape remastering can involve frequency correction, dealing with speed differences, tape abrasion and the loss of higher frequency, problems in the bass with "head bumps," etc. It can also involve adjusting for differences in dynamic range if the speed of the tape has to be changed as part of the processing, and anyone who looks at frequency response of the different old professional and studio tape recorders becomes aware of the fact that increasing speed to 15ips or 30ips did not always increase performance—depending heavily on the machine.

In addition, remastering can involve trying to filter out tape hiss and other clicks and noises. It can mean adjusting the level of the third channel on the tape of some early stereo recordings, or even finding a stereo version of a recording that first came out in mono. It is also generally done by someone who never heard the original group live, as it sounded when the original recording was made, and who has to guess at the musical and technical history of the tape they are remastering.

#### **Digital Provenance**

Digital recording has scarcely solved these problems. Ever since CDs, digital processing and editing has offered a steadily wider range of ways to alter the sound of an original recording, or even create the equivalent of an original performance. Recording and mastering CDs has also evolved overtime, as have attempts to create various forms of more complex and/or higher-resolution recordings.

Analog-to-digital converters have changed significantly, along with the development of electronic ways to manipulate virtually every aspect of sound quality and "correct" for the limits of given singers and musicians. In most cases—as with analog recordings—no indication of the nature and scale of such technical "improvements" or changes in the music is provided in the literature that comes with a given recording.

The creation of digital streaming and downloading services has not made things better, and the same is true of the current emphasis on high-resolution recordings. Setting higher standards than the standards for CD can have real benefits. It can offer major improvements in virtually every technical parameter with better frequency range, dynamics, and distortion levels.

However, commercial recordings that are labeled as "high resolution" may provide none of these benefits. For too often, "high resolution" means labeling older recordings with digital bitand frequency-rates above the 16-bit/44.1kHz standard for CDs by processing them at 24 bits, by claiming frequency rates from

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88kHz to 192kHz, or by claiming such a recording is the MQA equivalent of a higher bit/frequency rate. To me at least, this is the high-end equivalent of making a silk purse out of a sow's ear.

In terms of provenance, it seems far more honest to label a purely digital recording by the lowest bit and frequency rate ever used in making it, since this will be the sound quality the buyer actually hears. It seems openly dishonest to label an analog original as "high resolution." It doesn't take a lot of effort, however, to find cases like a streaming service that offers a Barbirolli/Halle Orchestra recording of *Finlandia* that is claimed to be a 24-bit/96kHz FLAC high-resolution recording, even though it is actually a Warner Classics analog recording made in 1988. (At the other extreme, there also is at least one SACD that claims to be "the first all-tube orchestral recording in 20 years.")

There may or may not be some real benefits to processing older analog and digital recordings at higher bit and frequency rates. It seems worth noting, however, that those benefits are likely to

be marginal, and that such processing can create technical problems with noise or dither. There is also scarcely any reason to charge more for such recordings, or to use up extra space storing them. I also have not heard or read of any serious listening tests that show that upgrading a recording that is not a true high-resolution original—and consistently processed at the claimed higher rate throughout its entire history—improves the sound, or that show either technical or audible reasons to go beyond 24-bits and 88kHz, even in a true high-resolution recording.

Adding The Missing Half Of The High End

With few exceptions, almost none of this provenance information about nearly a century's worth of even the highest-rated audiophile recordings comes with any record, tape, CD, other commercial recording, or streaming service. A few audiophile-oriented companies like AIX, Reference Recordings, and Telarc are exceptions—as are Mercury Living Presence and RCA Red Label SACDs to some degree. What data is provided, however, generally only covers a small part of a recording's musical provenance: the names of the key artist(s), band, or orchestra; some details about the composer, and a bit of musical history. In most cases, even most of that data will be general in nature and say little about the particular performance involved.

For the most part, commercial analog, CD, SACD, and "hires" recordings only provide a download of a front cover that shows the performers, the composer, or some totally irrelevant image. The rest of the data that come with such recordings focus on musical provenance rather than audio provenance. Most are very limited because they have to be crammed into the back of the album that came with the analog LP, or into the folder that fits in a tape or CD and that was once a key tool in selling other recordings.

Far too often, even data that come with real high-resolution recordings are more promotional than substantive. They say little about the artistic choices involved in that particular performance, and the specific way of performing a given composition or piece of music. Most fail to give a specific recording date and list the details of the venue where the recording was made.

From an audiophile standpoint, this is roughly equivalent to selling a wine that doesn't state its vintage, the source of its grapes, or provide any details as to how and where it is made—or that deliberately makes false claims. This is fine with *vin ordinaire* and cheap table wines, but it scarcely helps develop the ability to select and enjoy great wines and properly distinguish between them.

It's also a bit like buying a painting without being sure of who the real artist is, caring how the painter approached the subject and his or her technique, and worrying about how it was cared for over the years and what forms of "restoration"—if any—were

applied to the original canvas. Once again, this is fine when the product or work of art is mediocre, and provenance does not matter. It does nothing, however, to promote really good recordings and really good performances, or to assure the audiophile that a major investment in a high-end home system can be justified by access to high-end recordings.

Some magazines do provide far more data on the musical content of a recording. Wikipedia has a list on online databases, many of which are free: wikipedia. org/wiki/List\_of\_online\_music\_databases.

If you are a classical music fan, *Gramophone* provides a massive on-line database of classical recordings—gramophone.co.uk/reviews—at reasonable prices. There also are many online university and commercial bases that flag other collections of reviews, collections of recorded music, as well as an AES collection of past articles that sometimes describe the character of given recordings. Key examples include libguides.umflint.edu/music/databases, libguides.umn.edu/music-related-databases, libguides.umn.edu/music-related-databases, loc.gov/audio/collections, american-music.org/page/Libraries.

Some of these music reviews do provide useful descriptions of sound quality and the recording process. In general, however, most such databases provide little data on the audio provenance of given recordings. Those that do also tend to focus on the musical character of the sound. Many only provide some broad judgment, and at least some make it all too clear that many musical reviewers lacked a high-quality audio system, or based their experience on limited exposure to different methods of recording.

Such reviews almost never describe the mike or miking method, the electronic used in making the recording, details like the use of high-quality cables or AC power supplies, and choices about how to establish dynamic range, and mix or cut a record, or assem-

It's also a bit like buying a painting without being sure of who the real artist is.

ble and use a mastertape. So far, there is little description—if any—of what choices were made in high-resolution recordings and the audible benefits that the recording engineer found in the process.

This near-indifference to the other half of the high end is no longer excusable. It certainly can't be rationalized on the grounds that the space on a record cover, a tape box, or a folder in a CD/ DVD/SACD box is limited. The shift to streaming services easily allows for a wide range of PDF downloads, and key data for every recording the service provides in its range of recordings.

Qobuz, for example, already has a PDF feature that can store multiple data and views of a given recording. These PDF options now tend to only provide a single copy of a review of the performance or a copy of the musical data that used to come with an LP, a commercial tape, or a CD. However, it is clear that Qobuz and other streaming services could easily store multiple PDFs that also described the actual audio history of a given recording, added data like a photo of the layout of the soundstage and musicians in real live recordings, and data on different views of how recordings were made. Such PDF could also give credit to the great recording engineers, producers, and companies that have set the standard for high-end recordings at a given point in time and who deserve both current credit and to be remembered for doing so.

Moreover, any streaming service should list the original date of the recording on its selection menu, the date of any remasterings, and accurate data on the minimum real-world bit and frequency rate of digital recordings. This would sort out real high-resolution FLAC and MQA recordings from the fakes. More arguably, there could be a simple indicator of the dynamic range of a given recording-although this is far harder to measure in practice than it may seem. It's all very well to talk 24 bit, but it takes recordings that could push the limits of 16 bits (and home systems) for 24 bits to matter. Organ, synthesizer, and boost bass guitar are examples.

Getting as much of the full technical history of a given recording as possible would depend on a wide range of individual efforts, but having streaming service welcome such input, and having experts add the audio details to existing outside services like Wikipedia could accomplish a great deal with even the most modern recordings. I suspect, for example, that many professional recording engineers would say that they hear more colorations in choosing the right microphone than they do in going from 16-bit/44.1 to higher levels of resolution. It's also hard to believe that the analog-to-digital conversion imposes less coloration than digital-to-analog.

The web already does provide a range of additional information on the technical history of how recordings are made, the evolving limits of the equipment available, regressive technical nightmares like the RCA "Dynagroove" process, and the degree to which recording standards have evolved and were actually followed. Most of these data, however, are very general and cannot be tied to a given recording. Some key data—like the data on the equalization used in given LPs and analog tapes—are uncertain or contradictory. Nevertheless, it should be fairly simple to correct and expand Wikipedia and other online data on given recordings, and to develop some audio history on each recording. Ironically, one other potential step forward is the fact so many recording companies have been taken over, reorganized, or gone out of business. As a result, there are many people who know the real-world history of older recordings, and the problems and compromises involved, and are now free to provide such data warts and all. This kind of "living history" of musical recordings is at least as interesting as that of the evolution of highend home listening, and adding it to the PDF and web data on recordings seems critical, given that relatively high-quality recordings can now date back some 70 years. More of that side of audio provenance is being lost every day. Without such efforts, the high end is a little like an oenophile who pours a black-box wine into a fine crystal glass. tas



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## Magnepan Mini Maggie System

The Mini-Maggie system is a three-piece, ribbon-tweeter-equipped, planar-magnetic, dipole speaker system intended primarily for desktop use. Featuring small tweeter/midrange panels that sit atop the desk and a stereo mid/bass panel that sits in the footwell below, it is arguably the finest desktop speaker

ever made. In fact, in detail, resolution, purity, freedom from grain, soundstage width and depth, and, above all, coherence, the Mini-Maggie rig sounds for all the world like a pair of Magnepan's exceptional 3.7i's on a smaller scale. (223)

#### Audience The One V3/1+1 V3

#### \$1695/\$2960

The One is a single full-range driver shoehorned into a small box. The driver itself is the same unit, the A3A, that Audience uses in its \$2960 1+1 V3.





According to Audience, the A3A has exceptionally flat response, claimed to be within ±3dB from 40Hz to 22kHz. The upscale version, the 1+1 V3, employs a significantly redesigned version of this full-range driver (one each front and back, plus passive radiators on either side), top-level Au24SX internal wiring, re-tuned passive radiators, and custom tellurium solderless binding posts. The result is more resolution and detail (particularly in the treble), superior transparency, wider dynamic expression, and greater midrange purity. Properly set up, the One and the 1+1 V3 are the best desktop speakers reviewer Steven Stone has heard. Robert Harley also uses the 1+1 V3 in his desktop system. (V2 versions reviewed in 236, 273)

#### Wilson Audio TuneTot

#### \$9800 (Wilson Audio Tune-Tot ISOBase, \$2100 / TuneTot Stand, \$2400)

For those who love the Wilson sound



but must place their loudspeakers close to a room boundary, the diminutive but hefty (29-pound) two-way TuneTot is intended for use on a bookshelf or a piece of furniture positioned next to a wall. The TuneTots excel in nearfield applications and could be considered for a no-compromise desktop system. A 1" doped silk-fabric tweeter gets its own sealed sub-enclosure, and the paper-pulp woofer is vented to the rear, with foam plugs provided in the event bass proves unruly. A system of front and rear spikes permits the speakers to be placed at a wide range of heights above the floor, all the while preserving the correct time alignment of the two drivers. With a variety of tube and solid-state amplifiers, the 'Tots manifested considerable poise with complex and dynamically challenging music; the bass foundation was quite satisfactory with large-scale symphonies as well as exuberant rock 'n' roll. (286)

#### **KEF Muo**

#### \$179 each

This wonderfully portable wireless loudspeaker system delivers the sonic goods well beyond expectations, especially given its petite dimensions. Intended for those who want quality listening on the go, it's a tiny two-way that pumps out big, full, and expansive sound with respectable resolution—and even reproduces some sense of soundstaging on many recordings. The Muo boasts a miniature version of KEF's Uni-Q "point-source" driver array—a decoupled central tweeter dome and a mid/bass, plus a long-throw radiator in the middle for better bass extension. How KEF packed this remarkably clean- and clear-sounding configuration into a sleek enclosure is a wonder—and a testament to clever design. (265)



#### \$1690

It may be a similar size and shape to a "boombox," but once you hear what this compact system (with three smallish cone drivers per side, 75W on tap for each driver, and integrated preamp, DAC, streaming, and DSP) can do, there will be no mistake. It is a different creature entirely. Its best qualities compare favorably to those of systems of separate components up to about twice its price, though it will not play super-loud (an expected result for amps and speaker drivers of this size) and won't give you the kind of wide, deep soundstage that you get from individual speakers. Highly recommended. (306)



#### Sony SA-Z1

#### \$7999

Over the years, Sony has periodically released products that are engineered to show what can be done if all the company's creative forces are brought to bear. Its latest Z Series offering, the SA-Z1 is a nearfield loudspeaker system with built-in amplification, input selection, and a bevy of special sonic adjustment options. It is a complete system that only needs users to supply an input source or two. The SA-Z1 system does not support headphones or subwoofers; it is its own self-contained thing—a complete musical universe unto itself. And what a universe it is, setting a new standard for what small desktop speaker system can do in soundstaging, harmonic purity, dynamic acuity, and low-frequency speed and definition. (312)







## Vanatoo Transparent One Encore

#### \$599

The Vanatoo Transparent One Encore all-in-ones (with 5.25" aluminum cone woofers and 1" aluminum dome tweeters powered by internal Class D amps generating 100Wpc for the woofs and 20Wpc for the tweets) look boxy and

simple and just fine on a desktop. Equipped with assorted analog and digital inputs and a built-in Bluetooth receiver, they can handle just about any source. For a streaming-centered solution, they don't need anything more than Chromecast to get solid sound—and even that's unnecessary if you use Bluetooth. Deep enough bass, nice midrange clarity, even a little sparkle on the uppers give them better than decent sound: You can't ask for too much more for the convenience and the money. In black or real cherry veneer. (301)

#### **KEF LSX**

#### \$1099

The KEF LSX is truly a little wireless marvel. There is no tether necessary to connect the primary and secondary speakers in the pair, although using the tether bumps resolution from 24-bit/48kHz up to 24-bit/192kHz. They sport sleek, gorgeous looks, in-



cluding real cloth wrapping that feels almost luxurious. An integral 70W Class D amp drives the mid and bass driver, and a 30W amp powers the tweeter. The inputs are simple: Bluetooth, Wi-Fi streaming, one optical connection, and a 3.5mm analog AUX port. Their small sizes belies their huge sound: bass was big and tight and adjusted via the Control app and the midrange was a pure delight. For anyone looking for an all-in-one solution in a tight package that does not sacrifice sound, the KEF LSX is highly recommended. (293)

## KEF LS50 Wireless Nocturne/ KEF LS50 Meta \$2199/\$1499

The KEF LS50 Wireless marks a reinvention of the company's iconic LS50 compact speaker as a wireless and active system (with circular glow-in-the-dark patterns and a sleek black enclosure in the Nocturne edition). It still sports KEF's patented Uni-Q concentric driver array, but in this wireless model the Uni-Q is driven by a built-in dual-mono 230Wpc amplifier, a streaming preamplifier, and a Roon-ready 24/192 DAC. The LS50 Wireless has a high degree of detail and overall naturalness of timbre—particularly through the midrange. Also, these smallish speakers pump out punchy bass that delves deeper than expected, while still maintaining their composure. Alternatively, the LS50 Meta is a passive version of the same speaker,



so named for its innovative internal damping properties. Quick-stepping, snappy, and relentlessly musical across genres, the LS50 Wireless or LS50 Meta pack big sound in a little box. (Nocturne, 285; Meta, 317)

#### Elac Navis ARB51

#### \$2299

Elac's active three-way compact is beautifully finished. With a rich full-bodied midrange, it projects a warm, cozy aura that proves ideal for vocals. (Fans of choral music will revel in the clarity of massed voices.) The Elac has a weighty, dynamic, bottom-up sound that suggests a speaker that not only doesn't need coddling but actually dares you to crank it up-way up. A hallmark of active bass is the way it grabs onto rhythm tracks, orchestral percussion (like kettle drums), or organ pedal points with the steely grip of a raptor. One of the rare small compacts where you don't have to scale back expectations in order to enjoy it. (291)



#### Bowers & Wilkins Formation Duo \$4000 (stands are an additional \$799)

The Formation Duo is the first in what will likely be a long line of active wireless loudspeakers from the venerable British speaker-maker. Inside each cabinet the Duo incorporates wireless streaming capability, DACs, and

amplification, all under DSP control. You simply plug in the Duo, and with a few taps on the Formation app, you're streaming music. The Duo's sound quality is a knockout, with spectacular imaging, a very smooth and flat tonal balance, and surprisingly extended bass. Easy to use, highly musical, and technologically advanced, the Duo brings true high-end performance to a lifestyle product. (298)



#### DALI Callisto 2C

#### \$4750 (includes the DALI Sound Hub and BluOS module)

The Callisto 2 C is the standmount solution in DALI's new "wireless ecosystem" that empowers users to easily access all their high-res music directly from their smart devices. The speakers are two-and-a-halfways, with a planar-magnetic super-tweeter augmenting the response of a 1" dome tweeter and a 6.5" woofer. All drivers

are powered by a built-in Class D amplifier, sourced by a built-in DAC, and eq'd and crossed-over by built-in DSP. Reviewer MK immensely enjoyed his time with the DALI's, rediscovering favorite music in the highest fidelity he has experienced in his home. Highly recommended. (293)

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#### Elac Debut 2.0 B5.2

#### \$289

It's little; it's vinyl clad; it's dirt cheap; and it sounds terrific. The B5 compact represents the first effort in what has turned out to be a long and fruitful collaboration between Elac and its celebrated VP of Engineering, Andrew Jones. The B5 is robust in the mid and upper bass, but the real difference is how everything comes together in such an exquisitely balanced and musical fashion. NG instinctively connected with the basic honesty of the B5 sound and was wowed by its bargain-basement price. What



Jones and the Elac team have managed to wring from this most humble of designs is nothing short of exceptional. The newer B5.2 version improves on the original. (Debut B5 reviewed in 259)





#### PSB Alpha P5

#### \$449

The PSB Alpha P5 is a budget mini-monitor for our time. Sonically it's pure PSB, with a nicely weighted midrange. non-fatiguing treble, and overall naturalism that make it very easy to engage with. Commendably there are few of the tonal peaks and bumps associated with lesser engineered speakers in this class. Midrange presence and

dynamic energy are captured with many of the strengths of the P5's sibling T20 floorstander. Vocals retain a nice blend of physicality, warmth, and clean articulation with hints of airiness in the upper octaves. The ability to fully define the contours of an auditorium is a wee bit beyond the P5's purview; nonetheless it conveys its share of string section layering and orchestral depth cues, with an image stability that outclasses much of the competition. The Alpha P5 represents the essence of what it means to be an entry-level compact in 2020. (306)

#### Elac Unifi UB5.2

#### \$599

The strengths that lifted the Unifi UB5 to critical success remain securely in place in its second generation. The midrange weight, forward-leaning energy, and focused imaging continues to make for highly satisfying vocal reproduction. And its tonal character retains the immediacy and transient attack, rhythmic jump, and midbass oomph that preserve its rock 'n' roll bona fides. The few rough

edges noted in the original have been largely buffed out in the UB5.2. The latest version has a smoother, less edgy sound. Elac has also eliminated a soft veiling, revealing greater lowlevel detail, micro-dynamics, and soundstage realism. Elac's UB5.2 has taken the well-deserved success of its immediate predecessor, ratcheted up the sonic positives, and, where it merited attention, minimized its shortcomings. A terrific speaker that NG recommends without reservation. (315)



#### Polk R200

#### \$699

By taking top-notch Legend-Series transducers and putting them in a minimalist cabinet, Polk's Reserve Series hits sonic pay dirt at a blue-plate price. This two-way compact cuts right to



the heart of the music, boasting equal measures of accuracy, dynamism, and immediacy. As well designed as it is lively, it doesn't shrink into the background tonally or dynamically. Nor does it recess images via frequency dips and droops in order to manufacture a false sense of soundstage depth. In the low end, the R200 just takes care of business. Sure, some of the visual glitter and gloss has been minimized. But the utilitarian enclosure is well executed. A sleeper in the best sense—not showy, not expensive, but a musical, no-nonsense, high-end *player*. (319)

#### Sonus faber Lumina I

#### \$899

The Sonus faber Lumina I sounds shockingly big despite its very small size. The form factor is attractive and stylish in keeping with the Sonus faber brand, and the sound is gorgeous, smooth, and realistically deep for such a small bookshelf speaker. Though it works best with a powerful amplifier, the Lumina I can really sing when given the chance. Bookshelf speakers don't typically create booming, powerful bass, and while this was certainly true to some extent in this case, reviewer DK was still absolutely astounded by the big, lush music coming from the Lumina. The soundstage was deep and wide, and instruments felt tight and accurate. The midrange was buttery and delightful, and the upper end had a good bit of luxurious sparkle to keep things interesting. For DK's money, this is the sub-\$1k bookshelf speaker to beat. (315)





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#### STAND-MOUNTED LOUDSPEAKERS



#### Focal Chora 806

#### \$990

Focal's latest two-way compact combines a hip look with sonics that have an even, somewhat mellow balance and a light responsive character. Focal's all-around conservative voicing means that the Chora 806 doesn't stray beyond the base paths—neither assaulting the senses nor plumbing the bottom octaves. Vocals, male and female, are expressive and relaxed, but

generally offer a little less chest energy and presence than a full-range speaker. However, in true compact monitor fashion, musical details—small and large—are abundant. Overall a well-rounded package of solidly engineered performance that touches a multitude of sonic bases, and proof that there's still a lot of life left in the budget twoway compact monitor. (304)

#### Polk L100

#### \$999

As the smallest member of the Legend Series, the L100 offers a level of execution, balance, musicality, and



outright aural thrills that places it at the top of its class. Its personality is one of effortless musicality, with an ability to convey rich midrange tonal color and complex textures. It has a well-grounded and earthy sound, a rarity in this class of stand-mount monitors. Its treble range is open with naturalistic transients and extension. Its lively presence range never grows impolite or coarse. The L100 turns out to be a superior voice speaker, sensitive to the finer nuances of vocal stylings, shadings, and dynamics. It also navigates bass solos with acrobatic ease. One classy little two-way. (308)

#### Elac Carina BS243.4

#### \$1379

Visually, the Carina BS243.4 is the portrait of a high-performance two-way monitor. Though it barely tops a foot in height, its sonic signature is rich and ripe. Outfitted with Elac's JET tweeter and supported by a 5.25" inverted-aluminum-cone mid/bass with unique downward-firing port, the Carina was capable of a low-end impact, dynamic drive, and sheer timbral weight that caught reviewer Neil



Gader off-guard. With a more forward monitor-like signature, Carina can swing with the best of them, even when pushed to higher output levels. Critically, the smooth JET tweeter doesn't announce itself or grow overly assertive; its fatigue-free performance blends invisibly. On the scale of musicality and value Carina rates very high in its segment. (304)

#### MartinLogan Motion 35Xti

#### \$1399

On the surface the MartinLogan Motion 35XTi looks like a pretty standard bookshelf model. The review pair came in a nice reddish walnut with a curved silver MartinLogan badge beneath smooth, simple grille covers. Under those grilles are a 1.25" by 2.4" Folded Motion XT tweeter atop a 6.5" aluminum cone woofer. Sonically, the 35Xti's impactful forwardness was driving and engaging, although that same enjoyable intensity could po-



tentially come off as harsh or a little too forward on some music. These aren't the most neutral speakers DK has ever heard, but they have an enchanting quality. (304)



#### Monitor Audio Studio

#### \$1400

This stand-mount features dual 4" mid/bass drivers above and below an MPD (micro-pleated diaphragm) tweeter that is based on the tweeter in Monitor Audio's \$30k flagship Platinum PL500 II. The build- and finish-quality are exceptional, with the Studio conveying an upscale vibe. For such small speakers, they have remarkable depth in the low end, likely helped by the dual mid/bass drivers and the dual slot-loaded ports in the back. The bass is satisfying and controlled, not remotely wooly or bloated. The midrange is gorgeous and lush, with no trace of hardness in the upper registers of vocals. Matching stands are \$500 per pair. (291)

#### GoldenEar BRX

#### \$1598

The BRX sits on the top rung of the GoldenEar Bookshelf Series' ladder. This two-way features a silky ribbon tweeter, plus a responsive mid/bass driver augmented by a pair of passive planar radiators. Sonically, the BRX seems born to play the classics, chamber, and jazz. As if etched into its DNA, it possesses the timbral and harmonic complexities of real acoustic instruments and the spatial qualities of real acoustic settings.



Tonally, BRX has a neutral-to-warmish signature. The midrange octaves are rich, balanced, expressive, and highly texture, producing a more romantic sound that illuminates music in a mellower light with a softer, rose-like complexion. The treble range is effortless, agile, and airily transparent, in the way ribbon tweeters tend to be. The GoldenEar BRX is a black-tie classicist of a high order. You won't need a golden ear to enjoy its class-leading blend of musicality and refinement. (315)



#### **R** Series

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#### **Totem Acoustic Sky**

#### \$2150

Classic Totem through and through, the Sky is purpose-built—clean and seamless, with rigid cabinetry and beautiful veneer finishes. The Sky is also prima facie evidence of just how far small speakers have evolved in the way of a fuller-bodied and warmer musical balance. Its tweeter and woofer sing with an of-a-piece coherence. Given the right-sized room (medium-to-smallish) and strong amplifier support, the Totem Sky just clears its throat and lets



loose, eliciting tuneful bass with resonant energy, dynamic vigor, and surprising slam.
With break-in, the Sky grows significantly more textured and realistic: The ambience surrounding singers, for example, becomes airier and better defined. Hats

off to Totem's Vince Bruzzese for his continuing quest to coax big-time performance from a tiny two-way, while still harnessing the virtues of speed and transparency that come with a little box. (275)

#### Watkins Generation 4rev-1 \$2495

The late Bill Watkins poured decades of experience into this small and innovative two-way. One of its key design elements is operation of the woofer as a wide-range driver without a low-pass filter. The 1" aluminum/magnesium alloy dome is damped to tame ultrasonic breakup modes. An unusual patent-pending bass-reflex tuning is implemented with two damped internal chambers. The end result is in-room extension to nearly 41Hz, a remarkable accomplishment for a 6.5" driver in a compact enclosure. The spatial presentation is nothing short of amazing and virtually leaves the BBC-spec LS3/5A in the dust. Expect an exceptionally wide and transparent soundstage coupled with transient speed, precise

image focus, timbral accuracy, and an ability to retrieve low-level detail that is generally unheard of at this price point. Recently "rev-1" added Cardas silver inputs and Cardas 11ga Litz wiring. (278)



#### Bowers & Wilkins 705 S2/705 Signature

#### \$3000/\$3999

Balanced, uncolored, remarkably precise, and self-effacing, the 705 S2 two-way monitor/bookshelf loudspeaker is a shining example of a large company providing more (not less) value. Leveraging technologies and techniques developed for Bowers & Wilkins' 800 Series speakers, the 700 Series actually delivers the often-promised, seldom-delivered, "trickle-down" benefits. The carbon-coated tweeter and Continuum cone mid/woofer are keys—long-tested elements that take the 705 S2 well beyond the performance of previous-generation 700s. Further internal advancements and tweaks abound in the sumptuous, eye-catching Signature version. A true musical sophisticate, it summons up buckets full of timbral details and contrasts, possesses a full-blooded physicality, and delivers outstanding bass that sustains and supports musical images. Either speaker has the rare ability to allow musical essentials to shine through. Both are "must-audition" in sub-\$5k monitors. (280, 313)



#### Totem Acoustic Signature One

In celebration of Totem's 30th anniversary, the Signature One represents the largest series of changes ever to this iconic model. Sonic performance is classic Totem—a high-revving, high-output presentation that doesn't shy away from combustible dynamic swings or demanding acoustic bass or rock rhythms. Its responsiveness to low-level inputs is where the cabinet rigidity pays off. The Signature One's ability to vanish within the confines of a small listening room remains a credit to the Totem résumé. Tonally it has a reasonably neutral balance anchored by a tuneful, full-bodied

midrange that is rich in color and texture. Not merely a quick, peel-out-and-burn-rubber compact, it has fairly broad shoulders that impart authentic gravitas to recorded music. Continuing to widen the performance envelope of the small speaker, the Signature One is the widest expression of Totem's grand quest thus far. (282)

#### LSA LSA-10 Statement

#### \$3495

The LSA-10 is a two-way with a custom 6.5" aluminum mid/bass and a 1" copper/beryllium-dome tweeter on its front panel and a 5" by 7" passive radiator on its back. Its cabinet's curved sides reduce in-cabinet resonances in addition to giving the LSA-10 a less boxy and more stylish look. Generating lots of clean, extended bass from a small cabinet has been one of the alchemical goals of speaker designers since the first transducer squawked to life. And while the LSA-10 doesn't break the laws of physics, for those audiophiles who require that push on their solar plexus delivered by a 50Hz kick drum, the LSA-10 sans subwoofer may be perfect. Do you long for a small speaker with powerful bass that still retains detail and delicacy in the midrange and upper frequencies? If the answer is "yes," you should give the LSA-10 Statements a listen. (304)



# SYNCHRONY

T600 LOUDSPEAKER



#### ROOTED IN LEGACY

PSB Speakers' Synchrony T600 towers represent the finest application of the brand's "True to Nature" Canadian design philosophy. Created by a team guided by the renowned Paul Barton, this flagship tower features a 5-way, 4-chamber design, and custom IsoAcoustic isolators to deliver a tonally accurate, true to nature soundscape.





PSBspeakers.com

#### HIGH-END AUDIO BUYER'S GUIDE 2022

#### Revel Performa 3 M126 Be

#### \$4400

To describe the M126 Be as merely the hot-rodded version of the nifty little two-way M106 does not give it its sonic due. There are fireworks and butt-kicking dynamics, yes, but more importantly, there's a degree of silken, shimmering refinement that's rare in this segment. Tricked out with a new 1" beryllium dome tweeter with a ceramic-coated, cast-aluminum acoustic-lens waveguide, and a 6.5" ceramic/aluminum-composite mid/ bass, the M126 Be offers low-level resolution, timbral realism, and top-end air and speed that are improved across the board. The low-end response from its bass-reflex cabinet is quick, with little indication of port artifacts—the

timbral clarity of acoustic bass, for example, is richly defined in both extension and grip. Relatively easy to drive at a sensitivity of 86dB and a load of 8 ohms, the M126 Be still craves good amplification. (290)



#### ATC SCM19-V2

#### \$4799

Not a brand to cater to the fashions of the marketplace, ATC has bolstered these stout, professional-grade monitors with bespoke drivers created to do a single job-accurate pro-caliber reproduction. Still, in spite of ATC's stellar track record, NG never expected the new and aggressively priced SCM19 to be as good as it is. A superb and superbly defined midrange, overall tonal neutrality, broad-shouldered micro- and macro-dynamics are all in evidence.



The surprise is the extent to which the SCM19 outshines its distinguished predecessors—particularly ATC's other passive consumer speakers—in voicing and seamless inter-driver coherence. There are no discontinuities and/or vestigial box colorations, either, In addition there's more air on top, likely attributable to the all-new, in-house-engineered-and-manufactured soft-dome tweeter, which is a real beauty. Simply one of the best compacts NG has heard to date. (245)

#### Alta Audio Alyssa

#### \$5000 (piano black); \$6000 (wood fin-

Audiophiles have many choices when they look for a high-resolution loudspeaker that delivers a lot of detail. They can also find many loudspeakers with sunny musical dispositions. But in Steven Stone's experience, a loudspeaker that can deliver high resolution



and inner detail yet remain musical in the process is as common as a unicorn. In SS's systems the Alta Alyssa did exactly that. He could listen all day at reference levels without fatigue, and yet never feel during that time as if he were being spared any of the micro-details. For many audiophiles, the Alta Alyssa could well be the loudspeaker that enters their listening rooms and never leaves. (320)



#### Bowers & Wilkins 805 D3 \$6000

The 805 D3 is the sole compact in Bowers & Wilkins' 800 D Series lineup. Stunning both visually and sonically, the two-way 805 is a bold performer. Its midrange signature is a near-seamless combination of speed, wideband dynamic contrast, and dense tonal color. And the civilizing influence of the 805's superb diamond tweeter cannot

be overstated. Chameleon-like in how it adopts the character of source material, it can be terrifically expressive and liquid, or warm and richly shaded. Other decisive factors include its integration of port and woofer, and excellent inter-driver coherence. Compact or not, the 805 D3 is a loudspeaker to be reckoned with at any price, from any company. (Replacement 805 D4 announced at press time at \$8000.) (805 D3 reviewed in 266)

#### Audiovector R1 Arreté

Audiovector builds all its own drivers in Denmark, and the company's founder, Ole Klifoth, has long been partial to the Heil tweeter, aka the Air-Motion Transformer tweeter, a design that permits very extended high-frequency reproduction with the acoustic output of a much larger dome. A portion of Audiovector's AMT output is sent backwards, enhancing the R1's spatiality. In addition to utilizing Audiovector's best AMT tweeter, all the R Series models with the Arreté designation have a grounding circuit that channels mechanical energy away

from the 6.5" woofer's basket to a third binding post on the back of the speaker. The Freedom Grounding Concept circuit, as Audiovector calls it, is included in the base price of \$6250; the \$850 cable that connects to both speakers and terminates in a Schuko connector to plug into a wall outlet must be considered essential, given what it does for perceived dynamics and bass articulation. The R1 mates exceptionally well with a good subwoofer, and although it's among the finest stand-mounts to be heard at its price point by itself, with the addition of a sub you have a threeway full-range loudspeaker system that, deployed in anything other than a very large room, will beat the pants off any \$10k floorstander you'd care to put it up against. (319)



## GERMAN INNOVATION



#### THE MOST DYNAMIC RANGE OF TURNTABLES



#### STAND-MOUNTED LOUDSPEAKERS

#### Fyne Audio F1-8

#### \$8295

Fyne Audio's premier stand-mount speaker features an 8" IsoFlare bass/midrange driver mated to a 1" magnesium-dome compression tweeter, forming a time-aligned coaxial transducer. Its treble range is clean, detailed, and naturally balanced once the Presence Control is properly dialed in. What is nearly magical is its holistic presentation of the musical spectrum. Expect to be drawn into the music aided by a midrange of superb clarity and nearly electrostatic transient speed. And if imaging is a high



priority, you're bound to fall in love with the F1-8. It is capable of generating an exceptionally wide and deep soundstage with precisely focused image outlines. A gem of a loudspeaker that delivers on the promise of a time-aligned point-source design. (320)

#### **MBL 126**

#### \$11,800 (stands, \$1190)

Musicality, transparency, and astounding spatiality underscore the brilliant MBL 126 Radialstrahler, the extraordinary little sister to the MBL 120. The sonics of this omnidirectional stand-mount are characterized by sweeping ambience retrieval, 3D-like immersion, and seamless top-to-bottom frequency response. As only an omni can, the 126 approaches the complex relationship between imaging, soundstaging, and envelopment in ways direct-radiating transducers often only hint at but rarely attain. Orchestral music assumes a naturalism and spine-tingling immediacy akin to the real thing. Low-level resolution and sensitivity to dynamic gradients abound. As a four-driver three-way, credit the superb carbon-fiber radial-mid and -tweeter drivers for spinning the sonic silk. Both are grainless, airy, and harmonious. Crafted and finished with extreme precision and taste, the MBL 126, though small in footprint, makes a grand sonic statement. (320)

#### CrystalConnect by Crystal Cable Arabesque Minissimo/ Minissimo Diamond

#### \$12,100 (\$13,400 with stands)/\$20,100 (\$21,500 with stands)

Replace whatever loudspeakers you've been using with a pair of two-way Crystal Cable Arabesque Minissimos and people will notice—before they've even heard a note of music. The whimsical apostrophe shape, the vibrant color, the assured smallness of the things stop folks in their tracks and make them smile. Sonically, the Minissimos are superb everywhere but the low bass, which is to be expected in a two-way. (Extra lower-bass support—provided by Crystal Cable's formidable, powered \$13,400 Subissimo subwoofer—will enhance and extend dynamic range, resulting in a wholly pleasing balance of structure and substance.) When it comes to imaging, the Minissimos disappear, creating a broad, deep, and continuous soundstage. Focus is highly specific, reflecting the recording engineer's decisions regarding perspective. A superior and stylish little transducer, the Minissimo is also available in a sonically superior Diamond Edition, with diamond tweeters and Crystal Cable Absolute Dream internal wiring. (256, 273)



#### Fleetwood Sound Company DeVille

#### \$12,600

The star attraction here is a solid-wood conical horn with an impressive dynamic range. A 1" compression driver covers the frequency range to below 2kHz while an 8" woofer fills in the frequency range below 1500Hz. Listening height is a critical factor to obtaining the most accurate tonal balance. Ideally, your ears should be at the tweeter axis or slightly above it. The midrange is full-bodied and felicitous of cello timbre, while the upper octaves sound just a tad recessed relative to the core of the midrange. Best of all, the DeVille is capable of breathtaking transient clarity and soundstage transparency. Its ability to resolve detail in a complex mix is exemplary. High sensitivity (94dB) and a flat impedance curve make the DeVille easy to drive. DO's current favorite in the two-way stand-mount category. (309)



#### Yamaha NS-5000

#### \$14,999

While looking nearly identical to the legendary Yamaha NS-1000, the NS-5000 is in fact something quite new, packed with plenty of unique and well-considered technologies. Zylon, one of the world's strongest fibers, is used for the membranes of all three drivers, presenting an identical and nearly ideal combination of stiffness and damping at all frequencies. Internally, tuned "J"-shaped resonators replace broadband cabinet stuffing to target unwanted low-frequency resonances, while two resonance-suppression chambers attach to the backs of midrange and tweeter to deal with higher-frequency resonant modes. The NS-5000s are characterized by a nearly Quad ESL-like unforced, natural, and open midrange/treble. The bass provides a scale and

fullness one would expect from a much larger speaker. A serious, glorious addition to the high-end audio landscape. (308)



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CHASING THE DRAGON

#### HIGH-END AUDIO BUYER'S GUIDE **2022**

#### STAND-MOUNTED LOUDSPEAKERS



#### Gamut RS3i

#### \$18,900 (Gamut integrated stands, \$3450)

From the moment reviewer KM first connected the RS3i two-way mini-monitor without much regard to optimizing its placement and just let music play, he heard a sound that was compelling, and it only got better with time and fine-tuning. The RS3i's liveliness never proved anything less than entertaining and engaging. In fact, the listened to the RS3i, and the more kinds of music he threw at it,

the more he admired its winning ability to dig into the music and bring out its essence and do so with a beguiling *joie de vivre*. Its bass extension and dynamic power are right up there with the best of the mini-monitor breed. The RS3i offers all the advantages of a small stand-mounted speaker combined with stunning dynamic presence. Capable of sounding much bigger than it looks, this is a honey of a speaker and should be on anyone's short list for a small-to-medium-sized room. (266)

#### **MBL 120**

#### \$21,400 (stands \$1630)

Yes, it looks remarkably similar to the classic 'droid silhouette of the MBL 121. But the 120 has higher damping and rigidity, and a massively reinforced cabinet with twice the volume of the 121—large enough to increase the diameter of the push-push, side-firing woofers. But it's the seamless frequency response of the 120 that represents its greatest improvement. This speaker spins silk from top to bottom but especially in its grainless treble. Imaging and soundstage replication are also more precise. And midbass integration, a weakness of the 121, is much improved in the 120, not to mention it achieves an easy half-octave or more of low bass. The finest compact Radialstrahler yet. (228)





#### Harbeth 40.3 XD

#### \$22,500/\$24,500 plus stands

The principal differences separating the 40.2 Anniversary from the stock 40.2 (the virtual embodiment of tonal neutrality) are special exotic or premium wood finishes; the latest WBT-Next-Gen binding posts; custom Harbeth internal wiring; and Harbeth-branded British-made audiophile-grade poly-capacitors. On casual listening the two editions are so similar they could be different samples off the assembly line. But on critical listening,

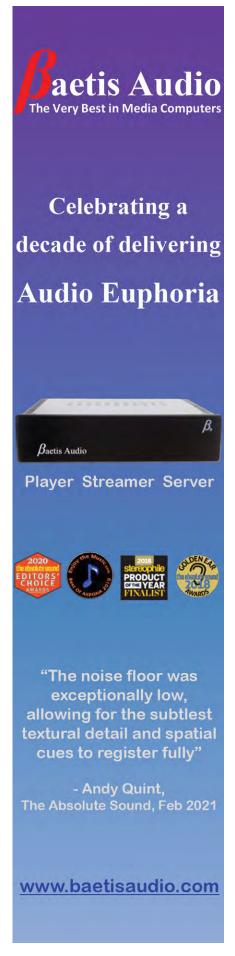
PS noticed three consistent differences: (1) The Anniversary sounds ever so slightly smoother; (2) the tweeter sounds fractionally better integrated; (3) the whole presentation sounds slightly purer, akin to what you might hear from a really good electrostatic. The 40th Anniversary version of the Monitor 40.2 is every inch the stock 40.2 PS wrote so enthusiastically about, and in a few areas it's actually even a tad or three better. With either version, however, you simply can't go wrong. (293)

#### Raidho TD1.2

#### \$23,000-\$26,000

This wonderful mini-monitor plays music with a lot more dynamic impact, control, and sonic heft than it should be able to muster given its size. Its robust sound could easily be mistaken for that of a small-to-medium floorstander. It recreates a large, airy soundscape filled with well-defined images in a coherent contextual whole. High resolution without sounding forced is the TD1.2's main strength. It also allows all kinds of music to retain their verve and beauty and thereby makes listening a real pleasure, despite the

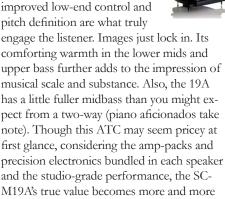
retain their verve and beauty and thereby makes listening a real pleasure, despite the inevitable two-way limits in low-frequency extension and dynamic range. With Raidho's updated ribbon tweeter and a new tantalum-diamond mid/woofer, this complete redesign (by Benno Meldegaard) of the venerable D1 is expensive, but the TD1.2 is for the enthusiast of fine mini-monitors, who appreciates the strengths—and accepts the weaknesses—of the genre and is willing to acquire one of the best available. (304)



#### ATC SCM19A

#### \$9999

The active, two-way, tower version of ATC's compact, passive SCM19, the 19A equals or betters the stand-mounted version across virtually all sonic criteria. It has superior bass extension, although its greatly improved low-end control and



evident with every recording. Audiophiles

but the SCM19A makes the case for them,

might shrink from active loudspeakers,

emphatically. (272)



#### Avantgarde Acoustic Zero 1 XD

#### \$20,600

Avantgarde Acoustic's DSP'd, active Zero 1 XD compact horn loudspeaker does the seemingly impossible: preserves almost all of the virtues of a horn-loaded loudspeaker while eliminating almost all of its vices. Digitally corrected for accurate phase, amplitude, and impulse response (via FPGAs designed by Denmark's Thomas Holm) within a "listening bubble" of 2m to 4m, the Zero 1 XD is the least horn-colored horn



loudspeaker JV has heard—the first horn loudspeaker that can actually "disappear" as a sound source. Exceptionally neutral, coherent (even in the bass), detailed, and fast, with surprisingly lifelike imaging and good soundstaging, and that three-dimensional midband presence that horns give you par excellence, the Zero 1 XDs can make certain instruments and voices sound as "there" as any other speaker on the market. Perfect for a small-to-moderately-sized room or for combo use in a home-theater system—all you have to add to these powered, digitally optimized, horn-loaded loudspeakers is an optical, AES/EBU, or SPDIF cable and a digital source. (245)

#### Eikon Audio Image1

#### \$25,000 (optional veneers available at extra cost)

This integrated system from high-end legend Gayle Sanders breaks new ground in audio-system architecture. Consisting of two speakers and the Eikontrol electronics, the Eikon Image1 system employs sophisticated DSP to correct fundamental problems of speakers in rooms. Each speaker incorporates four power amplifiers, and is driven by four line-level analog outputs from the Eikontrol. With two 8" woofers (one rear-firing), a 5" midrange, and an air-motion transformer tweeter in a diminutive multifaceted floorstanding

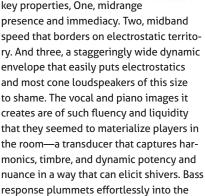
> enclosure, the Image produces a much bigger sound than its size suggests. The "Wavelet" DSP corrects timing information in the bass, realizing greatly improved clarity and definition. The Image1 is technically innovative, highly musical, and an exceptional value. (304)



#### ATC SCM50 ASLT

#### \$33,999

The tower version of the famed pro monitor, the threeway, tri-amplified SCM50 ASLT has an ease and neutrality that are underscored by three key properties, One, midrange



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#### Magnepan LRS

#### \$650

Replacements for and improvements upon Magnepan's venerable, bargain-basement MMGs, the LRSes (Little Ribbon Loudspeakers) look identical to their predecessors, only they are equipped with all quasi-ribbon drivers, where the MMGs used a quasi-ribbon tweeter and an "old-fashioned" planar-magnetic mid/woof. The result of this uptick in driver complement is markedly faster transient response, higher resolution of inner detail, greater coherence with the quasi-ribbon tweeter, and more neutral voicing overall. Minus a subwoofer the Little Ribbons won't plumb the lower depths like Maggie's larger panels do and, sub or no, they slightly roughen up then roll off the mid-to-top treble, but in the midrange they sound like the real thing, and that, folks, is not a given, no matter how much you spend. (302)



#### PSB Alpha T20

#### \$699

PSB takes budget seriously, and the short-tower two-way T20 is a serious ground-up redesign. It targets the essentials of musicality first, and lets everything else fall tunefully into place. A very approachable, high-output speaker, its overall character retains PSB's familiarand welcome—warmish slant. Midrange integrity has improved, as has dynamic output and low-level resolution. Driver

coherence is excellent, as per PSB tradition. Bass response is solid, though the midbass is not always as sharply controlled or pitch-specific as that of more elaborate offerings (though the T20 never veers too far astray). Staging could be more dimensional, and the T20 is a bit dry on top but never dull. The perfect way to impress those highfalutin' audio friends. (302)

#### JBL Stage A190

#### \$1100

The top dog in the Stage family, the A190 is a no frills, 2.5-way, bass-reflex design. The square-shouldered 42" tower, is an appealing and brawny performer that shows its muscles in the mid- and upper-bass. It energizes a room as only dual-woofers capable of launching a lot of air can. Tonally, it's commendably neutral, neither etching the treble nor port-pumping single-note pulses in the bass. On occasion, the lower octaves seem a little out of step with the tweeter—due to a hint of cabinet coloration or port interaction that can thicken familiar



bass tracks. If the goal is musicality and a semblance of fullrange, seat-of-the-pants slam and dynamic authenticity, the Stage A190 is one of the best and affordable real-world efforts NG has encountered, and a no-brainer bargain. (293)

#### **DALI Oberon 5**

#### \$1199

Stretching the sonic limits in the lower-cost, small-floorstander category, DALI's three-driver, two-way, bass-reflex Oberon 5 strikes a satisfyingly warmer tonal balance, offering good extension and timing, and well-focused detail. Output is robust with a wealth of timbral cues and colors in the midrange. The high frequencies are smooth, although a bit dry and perhaps a tad shaded. Singers are reproduced with a pleasing flesh-on-the-bone physicality, accompanied with lively presence. The Oberon 5 won't venture deeply into the bottom octave, but there is enough oomph in the midbass to suggest some grandeur. An economical yet formidable speaker that with few concessions permits users to toe the line of everyday practicality, while still allowing their audiophile hearts to lead the way. (297)



#### Fyne Audio F501

#### \$1750



Built in the Tannoy tradition by ex-Tannoy employees, the F501 looks and feels like a brilliantly executed mature product. Fyne's coaxial driver is built around a rigid cast-aluminum chassis with the tweeter, a titanium dome, located in the throat of the midrange/woofer cone to achieve point-source acoustic coherency. The bass response is augmented by a 6" woofer operating up to a frequency of 250Hz. The F501 is easy to listen to over long listening sessions. There isn't even a hint of gratuitous brightness, but careful front-end matching is required to mitigate a slight upper-midrange dip. It

seems to prefer solid-state amplification for best bass performance and delivers outstanding detail resolution, midband clarity, and spectacular imaging. Add excellent transient speed and control to the sonic mix, and what you end up with is a mighty fine loudspeaker. (304)

#### Focal Chora 826

#### \$2190

The French speaker specialist has trickled down elements of its advanced W-Sandwich composite-cone technology, first developed for the flagship Utopia line, to an unprecedented price level with the Chora Series. The top model, the floorstanding 826, uses three such "Slatefiber" drivers, two bass and one midrange, coupled to an aluminum inverted-dome tweeter in a front-ported enclosure. The 826 is truly a full-range speaker, with excellent low-end extension and heft. Perhaps thanks to the driver technology, the midrange is particularly detailed and resolved at this price, with excellent rendering of low-level instrumental detail. The treble is open and extended, but not the last word in smoothness at higher volumes. Overall, an excellent value. (315)







#### Magnepan MG 1.7i \$2400

In Issue 307 JV selected this tall, skinny, three-way, full-range, quasi-ribbon, dipole floorstander as one of his favorite loudspeakers of the last seventy years. High in resolution, low in distortion, with enough bass and treble (of superlatively high quality) to satisfy anyone save a head-banger and a midrange that reproduces well-recorded voices and acoustic instruments with jaw-dropping realism, it is one of those "sweet spot" wonders that pops up once in a decade or two. The 1.7i gives you a generous taste of everything its bigger and more expensive Maggie brothers are capable of for a tiny fraction of what you'd pay for the same wonderment in a top-line dynamic

#### Vandersteen 2Ce Signature III

#### \$3279 including stands

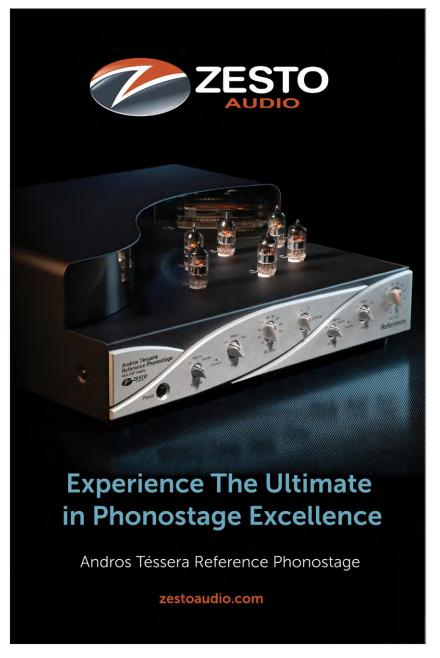
speaker. A genuine classic. (313)

The Vandersteen 2Ce is the classic three-way floorstander, delivering excellent top-tobottom balance and engaging musicality. Moreover, Vandersteen's baffle-less, time-andphase-coherent design can suggest the spatial focus usually heard with planars. It benefits from bi-wiring and should be placed away from walls. The first-order crossovers essential to time-coherent performance somewhat limit maximum sound-pressure levels. In continuous production in eight iterations since 1977, more than 100,000 pairs have been sold. A genuine classic. (139, 122)

#### Larsen Model 6.2/Model 8

#### \$4295/\$7495

Like its smaller and bigger siblings, the two-way Larsen 6.2 is designed to be positioned against a wall, facing forward, which vastly simplifies the process of room placement. Early reflections from the speaker's backwave are eliminated. Additionally, the drivers face inwards and upwards, which addresses the issue of the first sidewall reflection. Tonal accuracy, detail, and spatiality are exemplary. The requirement to site the Larsens near a boundary also contributes substantially to their surprisingly (for their size) potent bass performance, though a powerful amplifier—think 150-to-200Wpc—assures the best results in this regard. The larger Larsen Model 8 is also designed to be placed against the rear wall, thus eliminating the rear-wall reflection. Orchestras sound surprisingly like orchestras, with a transparency that doesn't just go down into the midrange but all the way to the bass. Images are very solid, but the focus is different from free-space speakers, being either more "dimensional" or less precise, depending on one's viewpoint. (276, 251)



#### FLOORSTANDING LOUDSPEAKERS

#### KEF R11

#### \$5000

A three-way, bass-reflex floorstander, the R11 has four 5" aluminum woofers and the same size Uni-Q concentric array (5" midrange with 1" vented aluminum dome tweeter) found in KEF's Reference and Blade speakers. It also has a Tangerine waveguide to improve upper-end frequency dispersion. By design, the KEF R11 delivers a kind of purity or neutrality to the sound that can often reveal finer details that result in



greater accuracy and realism—attributes that aren't found every day in more approachably priced speakers. The R11's seemingly play well with various amps and within home-theater setups, as well. But it is their top-to-bottom coherence and even dispersion that helped the R11 sound less like speakers and more like music itself. (298)



#### Rosso Fiorentino Elba 2

#### \$5000

The entry-level Elba 2 from Rosso Fiorentino is a two-and-a-half way design employing dual 6.5" midrange/ woofers mated to a 1" silk-dome tweeter. Sonically, the Elba exudes refinement and classical elegance, eschewing a forward and aggressive presentation in favor of musical expressiveness. This speaker beautifully portrays music's very fine timbral structure, revealing a warmth and richness in instruments and

voices that comes closer to the real thing than any \$5k speaker has a right to. The Elba 2 may sound a little dark through the midrange compared to similarly priced competitors, but this tonal balance is much closer to live music than the threadbare timbres and bleached tone colors that so often passes for "clarity" and "resolution." The Elba 2 puts the listener at ease, inviting him into the music in a way that even some far more expensive speakers fail to do. The Elba 2 isn't a great loudspeaker for the price. It's a great loudspeaker, period. (315)

#### Vandersteen 3A Signature

#### \$5774 (includes stands)

Like all Vandersteens, the Golden Ear Award-winning 3A Signature is time-andphase accurate. Its driver complement features the patented midrange and tweeter used in the vaunted Vandersteen 5. The 3A Signature has a relaxed presentation, is musically seductive, and will appeal to those who want to forget about the sound and enjoy the music, though it does trade off some dynamic contrast and midrange resolution for its overall ability to involve the listener. (139, 122)



#### Magnepan MG 3.7i

#### \$6600

Maggie's three-way, true-ribbon/ quasi-ribbon planar 3.7i successfully addresses three issues that have long vexed "true-ribbon" Maggies: the seamless integration of that ribbon with the other planar-magnetic drivers; the retention of detail and dynamic range at relatively low volume levels; and the reduction of "Maggie graininess." The solution to these problems combined with the famous virtues of

true-ribbon Magnepans (neutrality, low distortion, high resolution, superb transient response, lifelike timbres, and natural imaging and soundstaging) produce what is, in JV's opinion, one of the best buys in a high-fidelity transducer regardless of price, provided you have enough amp to drive the 3.7i, and the space to house it. Note that the 3.7i does not produce deep bass below about 45Hz and, like all planars, runs into membrane-excursion limits, slightly limiting dynamic range (particularly in the bass) at extremely high SPLs. (forthcoming)

#### Monitor Audio Gold 300

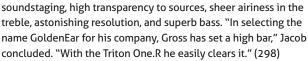
The three-way, four-driver, bass-reflex Monitor Audio Gold 300s deliver neutrality, powerful presence, and substantial sound output. Of course, the Gold 300s' "fidelity to source" tendencies reveal both a recording's finesse and flaws. This isn't to say that the 300s ever sounded sterile or analytical, but rather that they generally got out of the way to show you what was there. This also means that if you've never heard your favorite songs without certain "forgiving" enhancements, you might be surprised by what comes through. In a way, this made listening with

the Gold 300s a voyage of discovery. If you appreciate or collect well-recorded material, the Monitor Gold 300s will enable you to reap its rewards. (300)

#### GoldenEar Triton One.R

#### \$7498

The three-way One.R is a true full-range loudspeaker, loaded with heaps of drivers (three 5" x 9" subwoofers, four 7" x 10" passive radiators, two 5.25" mid/basses, and one folded-ribbon tweeter) that deliver a real wallop. Nice-looking as well as almost unbelievably great-sounding (particularly at their relatively modest price), the One.R bowled reviewer JHb over. Coming off his three-quarter-ofa-million-dollar Wilson WAMMs, JHb wasn't sure what to expect. But he was immediately smitten by the One.Rs planar-like qualities, phenomenal





#### HIGH-END AUDIO BUYER'S GUIDE **2022**

#### Graham LS5/9f

#### \$7999

The LS5/9f is the floorstanding tower version of the Graham LS5/9, both BBC-derived models designed by Derek Hughes. The larger enclosure of the LS5/9f gives additional bass extension and dynamic capacity while losing none of the neutrality and articulation of the LS5/9. The result is a speaker with bass and dynamics that are adequate for orchestral and rock music and with an extraordinary truth to the sound of real instruments. (The extreme top is a little rolled off: fans of "air" may want to add a super-tweeter). An instant classic that far outperforms its elegant but understated appearance. (forthcoming)

#### Sonner Audio Legato Duo \$8500

The Legato Duo from Boston-based Sonner Audio has an invitingly warmish signature that makes music more listenable than challenging. The mids are accurate in timbre, and the presence range is articulate without veering into forwardness. Transients are fast—crash cymbal, hi-hats, snare drum snaps, flat-picked instruments spring forth with a sparkle that conjures the real thing. And solo violin has a nice balance of bowing and attack without

any sacrifice in the resonant sweetness



of the body of the instrument. The Legato Duo never overreaches in the upper octaves; nor is it prone to excess sibilance. Low-frequency response extends fairly steeply, albeit with a bit of compression, but the drivers still move a notable amount of air, giving the Legato Duo a heavier footprint than might be expected. A fine debut and a welcome addition to the high-end neighborhood. (293)

#### **DALI Rubicon C**

#### \$8798

DALI's Rubicon 6 C is the largest of four powered-loudspeakers offered by the Danish manufacturer, a 2.5-way floorstander. The tweeter is a soft-dome/ribbon hybrid that's fast and extended, smoothly blending with the drivers below. The two cone midrange/woofers employ a material for the pole piece called "Soft Magnetic Compound" (SMC) that has standard magnetic properties but virtually no electrical conductivity, which eliminates hysteresis-related distortion. A compact streaming preamp (the "Sound Hub") is part of the package; it wirelessly pairs to the loudspeakers, a reliable and sonically invisible connection. The system doesn't play favorites with musical genres. Power pop, small group jazz, opera, female vocals—everything is reproduced with natural detail and abundant character. (315)



#### Vandersteen Treo CT

#### \$9499

A loudspeaker of uncommon musicality and precision. Built upon the R&D that gave birth to the flagship Model Seven, the four-driver, medium-scale Treo CT conveys a single-driver-like coherence that immerses the listener in the very moment the recording was captured. It combines uncanny image specificity, color, and texture with an enveloping sense of air and immersiveness. At least some credit must go to the Model Seven-derived CT (carbon tweeter), which is as transparent and open as it is extended. Basically a passive version of the Quatro Wood CT, the Treo may not have quite the bass slam of that model, but you'd hardly miss it due to its unflappable resolution of pitch. A true classic. (262)



#### FLOORSTANDING LOUDSPEAKERS



#### Focal Kanta No2

#### \$9990

The Kanta line from the esteemed French manufacturer is right in the middle of the company's wide range, with the Chorus and Aria series below it, and the Sopra and Utopia lines above it. All Kanta models feature a new "F-sandwich" driver construction that surrounds a flax core with glass-fiber diaphragms. The Kanta No2's 6.5" midrange and dual 6.5" woofers feature this driver design, while the tweeter is the latest version of Focal's acclaimed IAL (Infinite Acoustic Loading) beryllium tweeter. This tweeter sounds superb, with very clean textures. The tonal balance is a bit on the brighter side of neutral, but not to the point of egregiously altering instrumental or vocal signatures. A stout solid-state amplifier is recommended to realize the Kanta No2's bass extension and dynamics.

Soundstage width and depth are excellent although the Kanta doesn't throw razor-sharp images. (289)

#### MartinLogan Impression ESL 11A \$9999

The 11A is the third from the top in MartinLogan's Masterpiece series, replacing the Montis, enthusiastically reviewed by PS. The main advancement in the new model is the incorporation of Anthem DSP room correction in the bass, which makes it possible to achieve exceptionally clean, clear, and powerful low end. A novel sliding-phase network allows for suppression of the backwave. As with the Montis, the integration of dynamic bass drivers with electrostatic arrays is managed with essentially perfect coherence, and all the other familiar ML virtues are in evidence, including life-sized scaling, broad and deep soundstaging, wider than usual dispersion for a paneled array owing to the company's unique "curvilinear" electrostatic elements, and very low apparent distortion. The tonal balance here, however, replaces the Montis' lovely ying-like personality with an altogether more yang-like, even aggressive forwardness; thus listening before buying is highly recommended. (281)



#### GoldenEar Technology Triton Reference

#### \$10.998

GoldenEar's Triton Reference may not be the equal of speakers six times its price, but it is an extraordinary value for the money at \$10,998 per pair—especially in a package that is comparatively small and exceptionally well styled for its level of performance. Its builtin subwoofer goes to the lower depth with outstanding realism and detail; the combination of an advanced crossover with a new folded-ribbon tweeter and upper-bass/midrange drivers in an improved layout ensures equally good performance over the rest of the spectrum. A very smooth and musical speaker that is remarkably "listening fatigue"-free without any loss of detail or high frequencies,

and with an equally good soundstage given proper setup. A genuine buy and well worth the added cost above the Triton One. (276)

#### Audiovector R3 Arreté

#### \$13,250

The R3 Arreté is a two-and-a-half-way floorstanding design with an Air-Motion Transformer (AMT) tweeter and two 6.5" mid/woof cones with membranes made of cross-woven Aramid fibers in a sandwich structure. High-frequency reproduction is exceptionally open, extended, and non-fatiguing, most certainly thanks to the AMT tweeter, a pleated membrane with the voice coil bonded to it. Bass is taut and tuneful; with most musical content, the use



of a subwoofer isn't even a consideration. Spatiality and transparency are first rate. All Audiovector loudspeakers with the "Arreté" designation offer a proprietary technology called the "Freedom Grounding Concept." Two cables, one from each speaker, join in a Shunko connector that's externally grounded. This serves to reduce motional feedback distortion derived from the woofer baskets. The FGC circuit is standard, but the cable needed to implement it costs an extra \$750 over the base price—well worth it. (305)

#### Sonus faber Olympica Nova III

#### \$13,500

The new ("Nova") versions of the Sonus faber's Olympica line of loudspeakers utilize a construction technique in which multiple layers of bended wood are set into an aluminum exoskeleton to create an exceptionally rigid enclosure. Within this largely resonance-free environment, users can experiment with the positioning of the top-to-bottom "Stealth Ultraflex" resistive

port—aiming it toward the center of the room or facing it toward the sidewalls—to optimize bass performance. The Nova III's three-way, four-driver transducer complement is fully up the task of playing loud and low-dance music, pipe organ, Mahler symphonies—as well as scaling down to deal effectively with more nuanced material like solo violin, an after-hours jazz singer, or a virtuoso pianist. (309)



#### Bowers & Wilkins



#### FLOORSTANDING LOUDSPEAKERS

#### SteinMusic Highline Bobby M

#### \$14,000 (available without the woofers for \$7000/pr.)

The Bobby M and its myriad configurations are uniquely striking-looking and wonderfully musical-sounding transducers that actually make good sense when you break them down—or, rather, when you put them together. Stein's Bobby speakers are modular: The M (for Medium) designation actually refers to the duo that was reviewed, with one bass extender (with two 6" woofers) under a two-way, bass-reflex monitor with horn-loaded tweeter and 6" cone mid/bass. If you use two bass extenders per channel, with one atop the Bobby S monitor and the second beneath it, you'll have a Bobby L (for Large). Sonically, the High Line Bobby M offered such pleasing and smoothly natural musicality and impressive dispersion. (304)



#### Magnepan MG 20.7

#### \$14,450

Magneplanar's big, full-range, ribbon/quasi-ribbon dipoles may not be the ideal "fidelity to sources" loudspeakers (transparency to sources is not the strongest suit of dipoles); nor are they the ideal "as you like it" speakers (at least, not for rockers looking for the ultimate in dynamic range and midbass slam). The listeners for whom the 20.7s are very nearly ideal—for whom Magneplanars have always been ideal—are those seeking the absolute sound. These Maggies' magical ability to transport you to a different space and time, and to there realistically recreate (with lifelike scope and size) the sound of acoustic instruments and the venue in which they were recorded, is extraordinary. It almost goes without saying (since these are Magnepans), but the 20.7s are also incredibly good values, although (as with all Maggies) you're going to have to bring a lot of high-quality power to the party, and you're going to need a good deal of room to house two speakers the height and width of a couple of NFL linebackers. (249)

#### Larsen Model 9

#### \$14,999

This is the latest and best embodiment (superb drivers and crossover) of the Larsen concept, using wall placement and woofers near the floor combined with wide dis-

persion of the higher frequencies to generate a sound with minimal early reflections but impressive uniformity over the room. The sound of your listening room is replaced by the sound of the original recording venue to a surprising extent. The speakers need minimal fuss about exact placement and little or no room treatment to achieve independence of the listening room. The Model 9 is superbly finished and surprisingly small, considering its bass power and extension. Domestic compatibility is ensured, along with striking sonic character. (309)



#### HIGH-END AUDIO BUYER'S GUIDE **2022**

#### Sonus faber Maxima Amator

#### \$15,000

A drop-dead gorgeous product, even by Sonus faber standards, the Maxima Amator is a floor-standing version of the Italian manufacturer's popular Minima Amator bookshelf model. This is a two-way design, with a 1.1" silk-done tweeter and a 7" mid/woofer joined by Sonus faber's novel "Interactive Fusion Filtering" crossover. Although those who listen to rock and large-scale orchestral music at enthusiastic levels may find low-frequency power and dynamics insufficient, with most other musical material the exceptionally seamless integration of the two drivers results in a sonic coherency that makes the speakers truly disappear. (315)

#### Magico S1 Mk II

#### \$18,000, M-Cast (\$22,235, M-Coat)

Magico's smallest floorstander sports all the key features seen in the larger models of the California company's S Series—an extruded aluminum enclosure, a diamond-coated beryllium tweeter, and a nanographene mid/bass cone driver. So it's no surprise that the sonic character (or lack thereof) of the new S1 is highly reminiscent of the S3 Mk II and S5 Mk II, as well as, to a significant degree, the exalted Q Series products. The continuity between the two drivers is exceptional—as good as you'll hear in a dynamic loudspeaker design—resulting in excellent imaging and realistic instrumental/vocal reproduction; in addition, bass is well defined and impactful. The lower price is for the granular anodized M-Cast finish, the higher tariff gets you the high-gloss M-Coat version. (270)





#### Wilson Audio SabrinaX

#### \$18,500

The SabrinaX is the smallest and least expensive floorstander in the Wilson line. Entry-level, maybe, but there are no observable shortcuts. The SabrinaX has commanding and linear top-to-bottom energy. It's a ripe sound, a relaxed sound, with a slightly warmer signature that may surprise the brand's devotees. It's a Wilson, of course, so the SabrinaX also has remarkable dynamics, outstanding low-level resolution, and the sense that it willfully wants to drive music forward rather than let it passively lay back. The SabrinaX artfully combines low-level resolution with powerful bass dynamics, never losing grip or control. Unsurpassed in a smaller listening room, this may be pound for pound the best Wilson Audio loudspeaker available today. (317)

#### Muraudio SP1

#### \$19,500

Muraudio developed its doubly curved electrostatic radiating elements initially for its omni electrostatic hybrid, the Domain Omni PX2. The SP1 uses one of the double-curved panels in a hybrid speaker with a wide (120 degrees) but not omni pattern (the electrostatic radiation is effectively a dipole), combined with a sealed-box woofer system with two drivers above and two below (it looks unusual but graceful). The result is a sound with very low distortion, a complete absence of boxiness, a spacious stereo presentation, and the complete integration of the electrostatic panel and the bass drivers. The speaker sounds like a point source. The SP1s offer much technical and musical sophistication at a price that others often charge for an ordinary box speaker. If you are shopping in this price range (or higher), seek this one out for audition. The SP-1 really is a bargain and a truly exceptional product. (293)

#### Piega C711

#### \$19,995

This floorstander from Switzerland boasts one of the most impressive drivers in all of high-end audio: a coaxial ribbon of Piega's own design and construction. Mounting a ribbon tweeter inside a ribbon midrange gives the driver perfect coherence no matter what the listening position or height. This coherence combines with the manifold virtues of Piega's ribbons—tremendous speed, clarity, transparency, resolution—to create a speaker that, above 400Hz, has few equals at any price. Four woofers (two active and two passive) in an extruded and braced enclosure couple seamlessly to the coaxial ribbon. (287)





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#### FLOORSTANDING LOUDSPEAKERS



#### Sanders Sound Systems Model 10e

#### \$20,000 (includes one Sanders Magtech amplifier)

The Sanders Model 10e is the culmination of decades of work by designer Roger Sanders toward perfecting hybrid electrostatic design. A flat electrostatic panel is mounted above a transmission-line-loaded woofer. The speaker, which must be bi-amped, comes with a DSP crossover with a variety of user adjustments. The uniformity of radiation pattern, together with the absence of resonant coloration, gives the midrange of the Model 10e a lack of coloration that is truly in the top echelon. This is one of the lowest coloration speakers available. Within the category of speakers that emphasize facsimile reproduction of the direct arrival, the Sanders system can surely claim to be the equal of any, and far superior to most. And when you consider that even if you buy two Sanders Magtech amplifiers—one comes along as part of the \$20,000 package—the total cost exclusive of source components is \$25,500, this system seems to REG to be not only a wonder but a bargain. (276)

#### Kharma Elegance S7 Signature EL-S7-1.1-S \$21,750

A loudspeaker for connoisseurs who appreciate the finest the high end can offer. The look is sumptuous, the quality of materials stunning, and the mirror-like finish breathtaking. But it's the sound that truly seduces—ripe with detail and harmonic complexity. Credit is owed to the new beryllium tweeter—a wonderfully coherent match with Kharma's proprietary composite (KCD) woofers. (Say goodbye to Kharma's traditional ceramic drivers.) Ideal for smaller to medium-sized rooms, yet so potent in output and midbass thrust it's easy to forget it's a mere two-way. Like all Kharma speakers the S7 has a micro-dynamic delicacy and resolving power that touch both the head and the heart. (253)



#### German Physiks HRS-130

#### \$22,000-\$26,000 depending on finish

The Unlimited II's bigger brother combines a carbon-fiber Dicks Dipole Driver (DDD) with a floor-firing 10" woofer. The DDD is a serious attempt to mimic the coherent soundfield produced by a small radially pulsating cylinder. The design is capable of wide-range operation and by its nature generates an omnidirectional radiation pattern in the horizontal plane. Expect an exceptionally wide sweet spot coupled with palpable image outlines. The HRS-130 is almost perfect for a small-to-medium-sized room, providing that the room is acoustically tuned along the lines of live-end/deadend to sharpen image focus. Solid-state amplification works best to tighten bass lines. Micro-dynamics pop right out of the fabric of the music, making it a breeze to connect with the music's emotions and drama. Midrange textures are capable of exceptional purity. (276)

### PROGRESSION INTEGRATED AMPLIFIER

#### CHALLENGING EVERY EXPECTATION



THE PROGRESSION INTEGRATED AMPLIFIER delivers a combination of performance, modularity and aesthetics that reflects the perfectionist spirit that is within every component designed by Dan D'Agostino Master Audio Systems, while challenging the expectations of what can be achieved in an integrated amplifier.

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Hand-built in our Cave Creek, Arizona, facility, the Progression Integrated Amplifier is the ideal centerpiece of a modern audio system, created for uncompromising listeners who want the D'Agostino signature on a single component that can truly do it all.

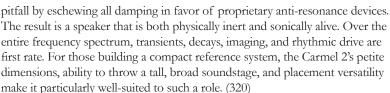


#### FLOORSTANDING LOUDSPEAKERS

#### YG Acoustics Carmel 2

#### \$24,300

YG's Carmel 2 does not look, sound, or function in the real world the way you'd expect it to, given the speaker's size, specs, and architecture. The smallest YG is an exemplar of fastidious engineering deployed to overcome what would normally be inherent limitations. The Carmel 2 doesn't just defy expectations; it shatters them. Elegantly curved at the waist, the speaker is more stylish and graceful than a speaker its size has any right to be. Moreover, the fit and finish are breathtaking, right down to the complete absence of visible joints, seams, or screws, and the subtle ribbing that gives the front panel a luxurious sheen. The biggest surprises come when you consider that the Carmel 2 is an aluminum-bodied, sealed-box design that sounds nothing like similarly designed speakers. Aluminum enclosures are prone to ringing unless heavily damped, which in turn can lead to sonics as dead as the treated cabinet. YG avoids this





#### Magico A5

\$24,800

Magico's A5 brings the company's vaunted technologies to a less lofty price. The A5 is a three-way, 5-driver system in a sealed anodized-aluminum enclosure that features materials and construction techniques previously implemented in Magico's top Q series. The three 9" woofers feature Magico's graphene Nano-Tech diaphragms newly modified to even stiffer and lighter levels. The woofers transition to a 5" aluminum-honeycomb-matrix mid/woof and a 28mm beryllium-dome tweeter. The result is a speaker that offers crisp, tight extension down to 24Hz, staggering dynamics for its size, and a lifelike sense of

weight and body. The overall presentation is triumphantly cohesive; image accuracy and presence are meticulous. The A5 offers micro-resolution, yet never sounds analytical. A terrific speaker and a great value. (320)

#### Estelon YB Mk II

#### \$25,000

Estelon's least-expensive full-range loudspeaker manifests all the virtues of the Estonian manufacturer's most ambitious products, including a uniquely shaped enclosure fabricated from a proprietary marble composite material. In this non-resonant cabinet, the YB Mk II's three drivers—a ScanSpeak 1" beryllium dome, a ScanSpeak 5.8" sliced-paper cone mid/woofer, and a SEAS 8.6" aluminum woofer, all basically



off-the-shelf parts—function optimally, and the Estelon's spatiality may be its strongest selling point. The speakers also excel at the reproduction of the human voice. Unquestionably, the YB Mk IIs function best with substantial high-current amplifiers, which provide the low-end heft and "grip" they're capable of. It must be remarked that the speaker's appearance is absolutely stunning, winning the YB model a Red Dot international design award in 2017. (320)

#### Legacy Audio Aeris with Wavelet **Processor**

\$25,642

The Legacy Aeris sports extraordinary drivers and cabinet design matched to advanced electronics that provide DSP room compensation and the ability to select a wide range of equalization settings for given types of recordings. The Aeris provides outstanding performance at every frequency to the limits of hearing and beyond. Add in excellent definition, dynamics, and a visual image that might win it an entry in New York's Museum of Modern Art. It has built-in 500W subwoofer amplifiers that provide powerful, room-filling bass, with a crossover point low enough to still get the best sound out of your

regular power amplifier. The mix of other drivers provides a coherent and naturally detailed soundstage, as well as enough dipole radiation to widen the stage and give it more natural ambience. The electronics and software allow the Aeris' response to be adjusted to be as musically realistic as possible in any real-world listening room. Now available with advanced Wavelet DSP processor. (235/269)



#### Rockport Technologies Atria II \$27,500

The Atria—a true Rockport at a more accessible price and size—embodies the best in modern speaker design. Its vanishingly low distortion leads to uncanny levels of purity and resolution, while also making the speaker easy to listen to. The Atria is also highly coherent, speaking with one voice—a voice that disappears as a source and is capable of throwing a soundstage so deep it's spooky. Surprisingly in this size and price range, this speaker has plenty of bass heft—and dynamic range to spare. All these elements come together effortlessly, creating an experience that will hold you in its



spell. The Atria is that rare component that is effortlessly "right" in its musical presentation. Further, the speaker emits a contagious vibe of simply being happy to make music. A terrific speaker and a great value, too. (Atria II review forthcoming)



### When Art Embraces Science, Anything is Possible.

Founder is no ordinary loudspeaker. We've treated every part, large and small, as if it were the most crucial piece of the whole. Every component has been thoroughly researched, designed, engineered, and tested. Not only are the drivers completely new, so is their mounting hardware, the cabinet's internal structure and shape, and even the feet. By leaving no element unaddressed, we've created something that is much greater than the sum of its parts.





#### FLOORSTANDING LOUDSPEAKERS



#### Acora Acoustics SRC-1

#### \$28,000

Acora Acoustics speaker enclosures are fabricated from African black granite, a homogenous and mechanically inert material. Owner and designer Valerio Cora is a lifelong audiophile and music lover whose family business for a half century has been "dimension stone"—natural rock utilized for numerous structural and decorative purposes, though not in high-end loudspeakers until Cora found the necessary CNC machinery to produce the precisely hewn granite

pieces needed to build the three models that comprise the current Acora line. The SRC-1 is a two-way floorstander with a 1" soft dome tweeter and a 7" sandwich paper-cone woofer, both drivers sourced from ScanSpeak and modified by Cora. The speakers are heavy (246 pounds each), yet elegant tapered monoliths standing 441/2" tall. Treble is relaxed, open, and airy; bass manifests good "slam" with plenty of extension to provide a satisfying foundation for symphonic music. (308)

#### Monitor Audio Platinum PL500 II

#### \$29,000

It's been said that big loudspeakers can mean big problems. What's more, it's not hard to spend big bucks on big speakers, especially on, say, a three-way tower with seven drivers. Happily, neither statement rings true here in Monitor Audio's state-of-the-art flagship, the Platinum Series PL500 II. Tall, dark, and handsome, these big boys impressed from the very first listen. In

some ways-in their warm, rich musicality and overall driving energy, for instance—they were slightly reminiscent of certain Raidhos (minus nearly another zero on the price). The PL500 IIs have proven infinitely enjoyable in their layers of depth and detail, delightful musicality, and overall coherence. They can also rock out with the best of them. (268)



#### Apertura Enigma MkII \$29,975

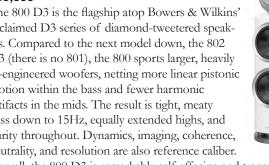
The Enigma MkII is the flagship offering of the French loudspeaker-manufacturer Apertura, a nearly 40-year-old company. It is an attractive floorstander with two custom-designed, 8" cone drivers separated by a ribbon tweeter (22cm) with an aluminum/polymer sandwich diaphragm. The mid/woofers use woven polypropylene, a new type of composite material, that is light but stiff and has good damping properties. Sensitivity is a whopping 95dB, making it an easy load for a

power amplifier. The Enigma MkII excels at reproducing the sound of a full symphony orchestra. Massed strings are detailed and have bite, but are not overbearing, as is the case with many other speakers. The treble strikes a beautiful balance between resolution and body. The low end has outstanding clarity, articulation, control, and weight. There is none of the midbass muddiness or thickness that many other speakers exhibit in this range. The Apertura Enigma MkII is an outstanding value, easily competitive with speakers costing far more. (320)

#### Bowers & Wilkins 800 D3

#### \$30,000

The 800 D3 is the flagship atop Bowers & Wilkins' acclaimed D3 series of diamond-tweetered speakers. Compared to the next model down, the 802 D3 (there is no 801), the 800 sports larger, heavily re-engineered woofers, netting more linear pistonic motion within the bass and fewer harmonic artifacts in the mids. The result is tight, meaty bass down to 15Hz, equally extended highs, and purity throughout. Dynamics, imaging, coherence, neutrality, and resolution are also reference caliber.



Overall, the 800 D3 is remarkably self-effacing and transparent to the source. You'll need a big amp to get this level of performance, and nearfield listening isn't recommended. Otherwise, considering the technology and quality that have been lavished on this highly pedigreed speaker—and the sonic results—the 800 D3's \$30,000 price seems almost like an error. New 800 D4 announced at press time at \$35,000. (276)

#### Magnepan MG 30.7

#### \$30,000

A three-way, two-panel-per-side planar with a ribbon tweeter and quasi-ribbon midrange in one section and a huge quasi-ribbon woofer in the other, the 30.7 is likely the fastest, most neutral, highest resolution Maggie JV has auditioned—phenomenally lifelike from the upper bass to the lower treble. As marvelous as it is, its tweeter may still need a little "damping down" via a resistor, depending on your electronics, your room, your sitting position,



and your hearing. On acoustic music, its bass is quite natural; on electronic music, it gives up some power-range weight and slam to select dynamic speakers (as all dipoles do). Then again, rock 'n' roll has never been the forte of any Magneplanar; however, if you're an absolute sound listener, you're not going to find a more realistic transducer for this kind of money—or any kind of money. (279)

#### Magico S3 Mk II

#### \$30,400, M-Cast (\$35,200, M-Coat)

A strong case can be made for the new S3 Mk II occupying the "sweet spot" of the company's entire line—that is, it is a notable value-for-dollar product. The three-way S3 Mk II incorporates Magico's latest driver technologies in the 1" diamond-coated beryllium dome tweeter, the 6" nanographene midrange cone, and a pair of 9" nanographene bass cones. The four drivers function with the unified voice of a good electrostatic but with the gutsy resoluteness associated with the best dynamic drivers. They are detailed and



accurate without seeming "analytical" and definitely maintain their composure with large-scale musical material of all sorts. Bass is punchy and extended; the S3 Mk IIs are completely up to the task of providing a satisfying listening experience with opera and orchestral repertoire, big band jazz, and full-throttle rock. A glossy M-Coat finish adds \$4800 to the price, compared to the anodized M-Cast version. (276)













CC Outstanding... gets everything right and does it all with style

Steven Stone, The Absolute Sound #300

















X1

S1, M1, X1+Amp

X1

X1

T2

X1

D2

X1

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#### Stenheim Alumine Three

#### \$32,750

The Alumine Three is Stenheim's most advanced "compact" floorstanding loudspeaker, intended to deliver the quality and character of the larger Alumine Five in a smaller and more affordable package, The newest Three is a four-driver 3½-way design, where the bottom woofer is taken lower in frequency, and the upper 8" higher. (They share what's in the middle of the bass passband.) A compact, exceptionally built, and easy-to-drive loudspeaker that fits into real rooms, with the heart of a large horn system and touches of electrostatic transparency thrown in for good measure, the Alumine Three stands at or near the top of the finest compact loudspeakers available today. Put it on your short list. (304)

#### Audiovector R6 Arreté

#### \$35,000

The Audiovector R6 Arreté utilizes the advanced technology created for the R8 and Flagship R11 Arretés in a "more affordable" package designed for smaller rooms. A six-driver design, the R6 included an AMT tweeter, rear-firing 3" midrange, two 6.5" front-firing carbon-fiber midrange drivers, and an isobaric-loaded woofer cabinet implementing a 6.5" and 8" woofer.

The sonic character of the R6 Arreté can be generally described as unconstrained and accurate, with an emphasis on resolution and natural detail. It's not that there is more there there; it's just that the definition of what's is there is cleaner, crisper, and more resolved. Add to that an almost magically neutral midrange of miraculous speed, and you begin to get the idea. Low frequencies are fast paced and articulate to match the speed and accuracy up top. If you favor detail, dimensionality, clarity, and scale, then these speakers need to be on your list. (313)





215-862-6570

ultra@ultrasystem.com

#### Estelon XB Mk II

#### \$36,900

The Estelon Xb Mk II is all about style—both the aesthetic and musical varieties. The speaker, like all Estelons, has one of the most sensuous silhouettes on the market. But the Xb MK II also features resolution so extraordinary, timbres so richly fleshed-out, and imaging so stellar that it can take the listener beyond engagement with the music to engagement with the hearts, minds, and style of the players behind the music. Note, though, that the

speaker will only do this under the right circumstances. Being of modest sensitivity, the Xb requires substantial power. Also, if toed in even a little, the Accuton ceramic tweeter can prove harsh. With these caveats duly noted, Alan Taffel sums up the Estelon Xb MK II as a rare component that forges a rare listener connection. (255)



# HANA MOVING COIL STEREO CARTRIDGE SERIES





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- Andre Jennings, The Absolute Sound September 2021

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#### Paradigm Persona 9H

#### \$37,000

Along with the Legacy speakers, the Persona 9H is a product from one of only two manufacturers AHC has found that can really do DSP room correction well. The 9H is truly flat, has very deep, quick, and detailed bass, and a superb new beryllium midrange and tweeter that possess a great deal of life and detail but no hardness. With excellent driver integration and something much closer to a point-source sound than most complex speaker systems, the 9H provides some of the best imaging and soundstage performance around. Pricey at \$35k, but the sound quality really delivers, and its size and weight are far more practical than that of many contenders for the state of the art. (273)



#### Joseph Audio Pearl 20/20 Graphene

#### \$37,995

The Pearl 20/20 Graphene comprises two modular sections. The lower half contains twin 8" woofers and the upper module contains a 7" graphene-coated midrange and 1" Sonatex tweeter. When combined, the two sections form the complete speaker. The Pearl 20/20 Graphene further improves upon the sound of Joseph Audio's excellent smaller Perspective2 Graphene, especially in the bass with additional power and extension. New FEA advancements in the graphene midrange and subsequent crossover adjustments have yielded a transducer with solid imaging, great soundstaging, excellent clarity, and a stress-free yet detailed presentation. Audition the Pearl 20/20 Graphene (and reviewer AJ recommends you do) with your favorite music on vinyl, disc, or stream, and prepare to have some fun. (309)

#### Vandersteen Kento Carbon \$39,475

The Kento Carbon is a four-way, five-driver floorstander (1" carbon tweeter, 4.5" Perfect Piston midrange, 6.5" tri-woven mid/woofer, and two 9" powered woofers) in an inert, minimum-baffle, constrained-layer cabinet-within-a-cabinet enclosure. A key advancement is the side-firing 9" woofers that, when used with the 11-band analog low-frequency room-optimization/compensation controls, allows for increased 20Hz-to-200Hz integration adjustments near walls or out into the room. The sound of the Kento Carbon is, first and foremost, extraordinarily cohesive and completely of-a-piece—it takes little effort to be convinced you are listening to realistically reproduced sound. Music through the Kento Carbon manifests itself in three-dimensional form; even though you can't physically see the performance, your ears will tell you what is happening directly in front of you. (312)



#### Magico S5 Mk II

#### \$41,800, M-Cast (\$47,025, M-Coat)

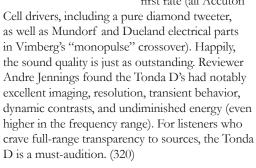
The S5, now in a Mk II version, stands second from the top of Magico's S Series. A four-driver three-way, it epitomizes the lineup's newfound tonal lushness, freer-flowing bass, and emphasis on organic musicality. The beauty of the S5 is that it achieves these fresh attributes without sacrificing Magico's traditional strengths. The S5 is a detail-unraveller

nonpareil and an imaging champ. Its bass is a nice mixture of ease, control, and extension (this is unequivocally a full-range speaker), although its low notes don't breathe and bloom quite as marvelously as do notes elsewhere in its musical palette. With the S5, and the entire S lineup, reviewer AT feels that Magico has found a way to create speakers that are both more affordable and more inviting than those in its flagship Q line, without losing the essence of the brand. (246)



#### Vimberg Tonda D \$50,000-\$57,000

Designed and built by the same folks who make ultra-high-end Tidal Audio loudspeakers, the Vimberg line is intended to offer Tidal quality at a lower price. The three-way, five-driver, ported, floorstanding Tonda D is Vimberg's flagship. With a gracefully angled HDF-laminate chassis and a substantial aluminum faceplate, the Tonda D is quite handsome looking. Parts quality is first rate (all Accuton







#### FLOORSTANDING LOUDSPEAKERS



#### YG Acoustics Hailey 2.2

#### \$52,800

The Hailey 2.2 gets so much right and offers so much trickled-down technology that one could make a compelling argument it represents the performance/price sweet spot in the YG line. It actually comes pretty darn close in overall performance to the next-model-up Sonja 2.2 in bass extension, dynamic range, and soundstaging. The Hailey is also the lowest-priced model to include YG's patented hybrid tweeter with a soft-dome membrane supported by a lightweight, acoustically transparent aluminum "air frame." The Hailey 2.2 is a musically expressive,

revealing speaker capable of deep-reaching, tuneful bass and agile, wide-ranging dynamics. It creates focused images within an expansive soundstage into which the speakers sonically disappear as sound sources. The more expensive Sonja 2.2 performs better in top-to-bottom coherency, but the Hailey really delivers the sonic goods in its own right—especially in its price category. (309)

#### Kharma Elegance dB11-1.1-S \$54,000

This reference-quality, three-way, four-driver floorstander uses a beryllium tweeter that is exemplary in its sonic purity and control, and a 7" carbon-composite midrange driver that employs Kharma's sandwich-cone technology, designed to push break-up frequencies as far up as possible, thereby eliminating colorations in the drivers' working range. This lightweight yet rigid midrange driver reportedly employs the highest-strength,



least-resonant carbon fiber available today. Two 10" aluminum woofers complete the package, housed, together with the other drivers, in a handsome yet inert cabinet, utilizing Kharma's "Bullet-Proof Laminate" to help reduce resonance and associated colorations. This is an extraordinary speaker with wonderful coherence, terrific low-level detail, gorgeous timbre, smooth yet extended highs, and surprisingly explosive bass. (256)

#### Legacy Audio V System

#### \$55,000

This digitally optimized, multiway floorstander with highly sophisticated Wavelet processor is one of the best speaker systems AHC



has heard—one of those rare new approaches to high-end audio that is so good it compels serious audiophiles to audition it. AHC was truly impressed with what the Legacy V could do in making subtle improvements in the realism of imaging, the definition of image size and depth, and the smoothness and clarity of the bass with a wide range of classical music and acoustic jazz. The Legacy V does have some truly great competition from speakers without any of the features of the Wavelet processor, but, to quote AHC's conclusion, "Damn, the Legacy V is really good!" (258)

#### Voxativ 9.87

#### \$55,000

The horn-loaded Voxativ 9.87 has certain advantages that neither planar nor dynamic speakers offer. First, it is very high in sensitivity at close to 100dB/1W/1m, which allows you to drive it to thunderous levels with an SET or lower-powered tube amp. Second, it is a single-driver speaker, using one Voxativ 8" wooden-cone AC-4D widebander with Voxativ's top-line neodymium motor to cover its entire audible range. This means there



is no need for a crossover because there are no separate woofers, midranges, and tweeters to join together. Third, the AC-4D is augmented in the bass by an independent, fully adjustable, amplified dipolar subwoofer, the Pi-Bass; as a result, the 9.87 doesn't thin down and roll off in the power range and low end the way other single-driver loudspeakers do. Indeed, the 9.87 doesn't sound like any single-driver speaker JV has heard. It has the body, power, and extension that are almost always missing in such designs, and is uncannily even in response from top to bottom. In sum, the 9.87 is the most complete and realistic-sounding single-driver transducer JV has yet auditioned. (289)

#### Wilson Audio Alexia Series 2

#### \$57,900

The Wilson Alexia Series 2 is scarcely cheap, but it does deliver much of the technology and sound quality of Wilson's very expensive speakers in a much more affordable form. The Alexia is the first relatively compact Wilson speaker with Aspherical Group Delay, which allows it to be fully time-aligned for a specific listening position. The end result is a speaker that comes far closer to the imaging and soundstaging accuracy of an ideal point source, with smooth and revealing overall frequency response, no hardness or artificial warmth, and a woofer that provides extraordinary power and low-frequency extension with room reinforcement. One of

AHC's reference speakers, and one where his admiration and listening pleasure have steadily increased over time, the Alexia is revealing but not forgiving. It deserves a really good front end and a powerful amplifier that can properly damp and control its bass. It is also sensitive to the choice of speaker cables, but with a matching cable, such as the Transparent Audio wires, it provides a truly remarkable musical experience. (238)



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#### Magico S7 \$63,800, M-Cast (\$70,400, M-Coat)

An extraordinarily revealing speaker that has very neutral timbre, and does not exaggerate or fail to reproduce any aspect of sound quality. Deeply extended in the bass but very uncolored, it can seem slightly



weak until you realize how far down the bass goes and how clean and tight it is. Dynamics are truly excellent, although the S7 does need real power to show how good it can be at the most demanding dynamic peaks. The only drawbacks are that this level of quality is anything but cheap, and the S7 offers accuracy, not romance or euphonic coloration. Here, however, its lack of any trace of hardness in the upper octaves makes its accuracy as musical as the recording, the rest of the system, and listening room allow. A great speaker. (266)

#### Vandersteen Model 7 Mk. II

#### \$63,999 (Bedrock Granite Base, \$10,000)

Although we haven't reviewed the Mk. II version of the Model 7, we've heard it sound spectacular at many shows ever since its introduction. Based on that experience, and our high regard for the original Model 7 (reviewed in Issue 206), we can confidently recommend the Mk. II. This phase-and-time-coherent four-way features Vandersteen's proprietary balsa-wood and carbon-fiber drivers. A 12" powered push-pull woofer couples to a 7" mid/bass driver, 4.5" midrange, and a



1" dome tweeter. The Model 7 Mk. II features an eleven-band fixed-frequency equalizer, accessible via a row of tiny rear-panel trim pots, that operates below 120Hz, allowing the speaker's low-frequency response to be tailored to the room. This loudspeaker competes with any speaker in the world in many ways, and exhibits top-to-bottom coherence, gorgeous and glare-free timbral reproduction, exceptional bottom-end extension and definition, and a planar-like freedom from box colorations. (forthcoming)

#### MBL 101 E MK II

#### \$70,500

Always the thrill rides of the high-end audio amusement park, with sensational dynamic range, superb transients, high resolution of inner detail, and the most surround-like soundstaging this side of a full-bore home-theater

system, the four-way, omnidirectional MBL 101 Es had three weaknesses: Their ported bass, though sensationally exciting, was a bit overblown; their upper midrange could be a bit bright; and their imaging at centerstage could be a little vague. The MK II version of this unique omni loudspeaker ameliorates these problems, without losing the unique Radialstrahler virtues, via a redesigned woofer that offers better control, a new subwoofer cabinet, a new ring design for the bass port, re-tuned front-to-rear dispersion, and new crossover technology. The result is a genuine improvement in a genuine classic. (218, 287)



#### Wilson Benesch Resolution

#### \$74,500

Reviewer Alan Taffel is not sure whether it's the carbon-fiber enclosure or the rarely-seen isobaric woofer arrangement, but something is responsible for making the Wilson-Benesch Resolution one phenomenal loudspeaker. It achieves with technology and dexterity the same benefits that many others accomplish with brute force. Specifically, the Resolution's background is deathly quiet, distortion is inaudible, coloration is negligible, and imaging is uncannily realistic. These are the sonic hallmarks of a vibration-free

enclosure. Further, thanks to in-house made, carefully matched drivers and equally well-thought-out crossovers, the Resolution does everything else well, too. Indeed, its strongest suit is bass performance. With its aesthetic appeal, unerring sonics in every parameter, and unfailing musicality, the Resolution is a speaker you will manifestly enjoy living with. (289)

#### Estelon X Diamond Mk II

#### \$79,000

It's been a decade since JV reviewed the original version of this superb three-way ported loud-speaker from Alfred Vassilkov of Estonia. Since then, Alfred has made enough major improvements—a new Accuton diamond tweeter, a new crossover network with superior parts, new internal wiring—to brand his latest X Diamond a Mk II version. Though some things have remained the same—including the ultra-quiet, aerodynamic, cast-stone enclosure—Alfred's



changes have made for a major sonic step forward in what was already one of the best direct-radiating cone loudspeakers Mr. V has reviewed. Always supremely detailed and "of a piece" from top to bottom, with the least boomy, most linear, and most extended bottom octaves JV has ever heard from a woofer in a ported enclosure, the X Diamond Mk II's new tweeter, crossover, and wiring have erased the original's very slight touch of the "analytical," turning what was once primarily a "fidelity to source" speaker into an ideal all-arounder whose richer, more natural tone color, still-outstanding resolution, lifelike dynamic speed and oomph, and remarkable absence of enclosure and driver noise should please every kind of listener, from rock 'n' roller to classicist. This is a truly great dynamic loudspeaker. (forthcoming)



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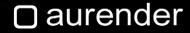
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#### **Avantgarde Acoustic XD Series Trio**

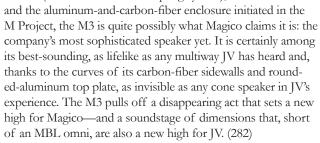
\$81,000 w/two subs; \$92,500 w/two Short Basshorns; \$178,000 w/six Short Basshorns

The eldest of transducer technologies, horn loudspeakers are an acquired taste nowadays; nonetheless, they still offer transient speed, resolution, and SPLs that dynamic and planar speakers simply can't deliver in the same ratios. The trouble is that horns have generally taken back with one hand what they've given with the other. Marred by driver-to-driver phase/time/coherence issues, gross "cupped-hands" coloration, and bass (usually supplied by conventional subwoofers) that simply can't keep up with the speed and clarity of their horn-loaded mids and treble, they've always been sonic mixed bags. However, these perennial problems have been greatly reduced or outright eliminated in Avantgarde's latest Trio/Basshorn transducer—gorgeous, three-way, spherical-horn-loaded "main" speakers paired with equally gorgeous, outlying, ingeniously equalized quarter-horn bass units that can be stacked to generate low end down into the upper-20Hz range. With horn problems minimized, you are left with a presentation of simply phenomenal scale, color, detail, and power—a wall-to-wall soundfield that comes closer to matching the sheer sonic majesty of a full symphony orchestra in full throat than any other transducer JV has heard. If you've got the space, the money, and a taste for big, powerful music, the Trio/Basshorns are essential listening. (253)

#### Magico M3

#### \$84,600

This new three-way, five-driver (one 28mm tweet, one 6" midrange, and three 7" woofers) floorstander from Alon Wolf leverages and improves upon the strengths of the limited-production M Project. Equipped with better versions of Magico's audibly superior-sounding diamond-coated beryllium dome tweeter, graphene-carbon midrange and woofer (with a novel driver-coupling system),





#### \$85,000

The \$85,000 Exquisite Midi is, incredibly, the seventh from Kharma's top of the line. The speaker employs a unique method of cabinet fabrication, implementing high pressure laminate (HPL) in a multi-layer construction that is CNC machined and adhered in ver-



tical plates to dampen mechanical vibration to almost zero. This allows incredible control of both the internal cavity shape and the volume of the cabinet, and ensures the reduction of diffraction and phase anomalies. The result is a speaker enclosure that is sumptuous, and a sonic signature that connected with reviewer Matthew Clott on a very deep emotional level. Subtlety and refinement, tonal structure, timbre and texture, the music itself were all wonderfully present, within one of the deepest and most natural stages MC has ever heard. (309)



#### YG Acoustics Sonja 2.2

#### \$88,300

The Sonja 2.2 improves upon the award-winning 1.2 with even greater dynamic ease, bass weight, soundstage continuousness, and resolution of fine detail. The main technical improvement comes from a kind of hybrid tweeter (patented)

called BilletDome that combines a soft-dome membrane with a very lightweight, strong, and acoustically transparent supporting "air frame." The result is a remarkably articulate tweeter capable of withstanding G-forces similar to those of good metal domes but without their oft-associated tell-tale metallic ringing. The cabinet and crossover have also been updated for greater accuracy and efficiency in the bass. The 2.2's inter-driver coherency and transparency to sources are exemplary. It recreates a very large, focused soundscape, and its overall presentation allows a great deal of musical expressiveness to come through—to thrilling effect on good recordings. (279)

#### Zellaton Stage

#### \$89,975

The Zellaton Stage from Germany can be considered the "Stradivarius of loudspeakers." Each Stage is exquisitely and painstakingly hand-crafted, is one-of-a-kind, benefits from multi-generational know-how, and reproduces sound gloriously—arguably better in some respects than any other loudspeaker. The secrets



to the Zellaton's breathtaking transparency and coherence, as well as its ability to replicate the natural timbre of instruments and voices with lifelike realism, are its hand-made, proprietary drivers, as well as its open-back cabinet design and superb (and costly) electrical parts. The Stage has the most seamless integration of any multi-driver speaker JH has heard, only rivaled in this respect by some full-range electrostatics; as a result, it reproduces all genres of music in a highly engaging and satisfying—as well as riveting—way. JH never before experienced the illusion of live performers in his listening room more often than he did with the Zellaton Stage. Not the last word in bass extension or weight. (297)



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- Peter Breuninger (avshowrooms.com)





"Make no mistake, the Tekton Design Double Impacts are among the best loudspeakers I have heard in my home, regardless of price."

- Clement Perry (stereotimes.com)

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- Andrew Robinson (hometheaterreview.com)

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- Herb Reichart (stereophile.com)



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- Terry London (6moons.com)

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- Andrew Robinson (hometheaterreview.com)

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#### MartinLogan Neolith

#### \$99,999

MartinLogan swung for the fences with the Neolith, mounting a roughly 4' x 2' XStat electrostatic panel atop an enclosure that houses a front-firing 12" driver and a 15" rear-firing woofer. Once you've heard the transparency, resolution, and sheer sense of nothing between you and the music that the Neolith's big panel delivers, you'll be spoiled for life. Surprisingly, these virtues of electrostats are combined with seamless integration with the bass,

resulting in a speaker with full frequency extension and dynamics along with fabulous transparency. The Neolith is beautifully built and finished (available in seven colors), highly flexible in room-matching, and backed by a solid company with nearly 40 years of experience in building electrostatic loudspeakers. An unqualified triumph that competes in the upper echelon of today's best cost-no-object loudspeakers, the Neolith was The Absolute Sound's 2015 Overall Product of the Year. (259)

#### Raidho TD-3.8

#### \$105,000-\$115,000

These newly redesigned three-way, five-driver (one ribbon tweeter, two 5" tantalum-diamond midrange, and two 8" tantalum-diamond ported woofers) floorstanders from celebrated Danish speaker manufacturer Raidho are simply great sounding-well worth a trip to a dealer who can properly demonstrate them. TD3.8's features do a truly exceptional job of reproducing the sound of music. The speakers may look somewhat ordinary from the front, and a bit small to approach reference-quality, but even a few minutes of serious listening to any good

recording with high-quality ancillaries will convince you that they have exceptional detail, life, and dynamic energy, a remarkable amount of bass extension and resolution, and an overall frequency balance from the deep bass to the top treble that is unusually accurate and low in coloration. Even if you can never afford speakers at this price level, listening to the TD3.8s will still teach you something worth knowing about buying the speakers you can afford. (309)

#### **Børresen Acoustics 05**

#### \$120,000

This svelte, handsome, five-foot-tall, seven-driver, two-and-a-halfway, ported floorstander from Danish loudspeaker designer Michael Børresen sounds, surprisingly, very little like the dark, powerful, immensely detailed Raidho speakers that made Børresen's reputation. Though it uses the same cone/ribbon driver complement as his Raidhos did, the character-istic "bottom-up" tonal palette of Børresen's Raidhos has



dramatically changed. Indeed, minus an irritating dollop of excess midbass energy around 80-100Hz, the 05 comes as close to a dead-center-neutral timbral balance as any conesin-a-box loudspeaker JV has reviewed. And thanks in part to its aerodynamic cabinet, it disappears (minus the midbass hump) as completely as any cone speaker he's heard. Resolution is astonishing with little to no hint of the analytical, and dynamics remain edgelessly explosive, top to bottom. When you combine the 05's newfound neutrality with its extraordinary reproduction of fine detail and unfettered energy, you get a speaker that will be very attractive to "fidelity to source" listeners. (309)



#### Wilson Audio Alexx V \$135,000

Wilson Audio's Alexx is the first multi-enclosure speaker designed by Daryl Wilson, son of the late Wilson founder and designer extraordinaire, David Wilson. The five-driver, four-way system features the identical 12.5" and 10.5" woofers found in the \$850k WAMM Master Chronosonic, along with dual midranges flanking a silk-dome tweeter. This being a Wilson, the midrange and tweeter drivers are housed in separate movable enclosures for realizing driver

time alignment at the listening position. The Alexx exhibits the traditional Wilson virtues of a "bottom-up" presentation, with tremendous low-end weight, dynamic impact, and solidity. The bass is more resolving dynamically, texturally, and in pitch than any previous Wilson. But in a departure for the brand, the Alexx is a more intimate loudspeaker than classic Wilsons, favoring midrange warmth, textural richness, harmonic beauty, and tone-color density. (Alexx reviewed in 298; Alexx V forthcoming)



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International patents pending.



#### Zellaton Reference MkII

#### \$150,000

The Reference MkII is a three-way floorstanding loudspeaker with a single 2" true cone tweeter, a single 7" mid/woofer covering the range from 200Hz to 6.5kHz, and three 9" woofers, all housed in a gorgeously finished, multi-layered, matrix-braced, open-backed enclosure. Every one of the Reference's drivers uses Zellaton's unique sandwich cone, rather than a mix of cones and domes made from a variety of materials—which is one reason why the speaker sounds so remarkably 'stat-like and of a piece. Of course, the main reason the Zellaton Reference MkIIs are reminiscent of electrostats is the realism with which they reproduce voices and many acoustic instruments. This is in equal parts the result of extremely high resolution, extremely lifelike reproduction of timbre, extremely natural and linear reproduction of transients (at less than thunderous levels), and extremely low driver/box coloration. With really great recordings of acoustic music, the result is a truly remarkable sense of being in the presence of actual vocalists and instrumentalists. With electric music, however, they are limited in dynamic range and output level. (279)



#### **Gamut Zodiac**

#### \$159,000

The Gamut Zodiac, with its uniquely shaped, all-natural wood body fabricated from 28 different layers, offers one of the most exotic and beautifully crafted forms in high-end audio. Employing uniquely modified drivers, including an SB Acoustics silk 1.5" dimpled-dome ring-radiator tweeter, a cut-paper 7" Scan-Speak midrange, and three 10.5" Scan-Speak woofers, two at the bottom of the baffle, and

one at the top, it is one of the most unfailingly musical loudspeakers GW has had the pleasure of reviewing in 30 years of writing about audio components. While it may fall shy of rendering the ultimate in resolution and transparency compared to products using ceramic, metal, or composite drivers, its exceptional bass extension and impact, authentic rendition of timbre, texture, attack, body, and weight, combined with a disarmingly open, spacious, and organic presentation, afford it an extraordinary degree of musical insight, almost putting it in a class all its own. (286)



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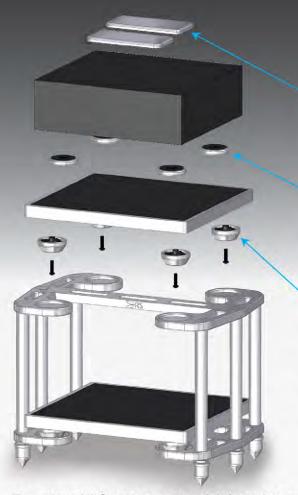
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The unique HRS system approach is based on two decades of product development guided by HRS listening tests and our customers experience. Our purpose-specific engineered products enable you to achieve superior musical performance for all component types and brands of audio equipment.

Each HRS Base Model (E1, R3X, S3, M3X2) can be set to either bi-directionally reduce noise or isolate any component. With the HRS approach you decide to use our chassis noise reduction products or optimize the system using the stock component feet. The decision to contact the component directly and reduce chassis noise is completely independent of the decision to isolate or dissipate energy to the structure.

HRS provides the unique capability to reduce noise of a solid-state amplifier, properly isolate a high-mass turntable, and then use a different setting to properly isolate a lightweight DAC. The exact structural settings and complementary chassis noise reduction products can be easily changed at any time to accommodate a different component, setup, or environment.



#### Magico M6

#### \$172,000

Starting with the M Pro, Magico has gone from massive, squaredoff metal enclosures to tapered carbon-fiber and smoothly curved milled-aluminum ones. The parallel sidewalls and sharp diffractive edges of Alon Wolf's earlier floorstanding models have been eliminated, and you can hear the difference in the way the M speakers disappear as sound sources A little more than a year



ago, Magico introduced the first descendant of the M Pro, the M3. This year it has introduced a larger version of the same basic design, the M6, with an even more aerodynamic shape (a nearly elliptical chassis) and bigger woofers with considerably greater oomph in the bass and power range. The result was the fullest-range, least cones-in-a-box-sounding cone speaker reviewer JV had heard to that point in time. Of course, the M6 weighs a ton, requires the best amplification and source components possible, and costs a bundle. But if you have a strong back and an even stronger bank account, it (or the smaller, less pricey, sonically similar M3) is a must-audition. (302)



#### Rockport Lyra

\$177,500 Although positioned just below the \$225k Arrakis in the Rockport line, the Lyra sets a new standard in innovative construction as well as in sound quality. The Lyra is a three-and-ahalf-way, five-driver design with a

rear-firing port. Two 6" midrange drivers flank the 1" waveguide-loaded tweeter, with two 10" drivers on the bottom. The enclosure is made from two massive shells of cast aluminum, with the cavity between them filled with a proprietary, high-density urethane core material. Musically, the Lyra delivers a horn-like visceral immediacy with its absolutely stunning dynamic performance. The musical effect cannot be overstated; the Lyra sounds "alive" in a way that other speakers do not. Yet for all its verve and panache, this is a speaker of great delicacy, capable of conveying the subtlest nuance of texture and shading. It's also the most beautiful in timbre that RH has heard, combining high resolution with lush textural liquidity. The icing on the cake is the Lyra's small size (for a world-class reference, which it certainly is) allows it to fit in many more rooms than other speakers of this price. (276)

#### Wilson Benesch Eminence

#### \$249,000

The Eminence is nothing short of a technical tour de force in advanced loudspeaker design. With its in-housemade carbon-fiber enclosure, custom drivers, isobaric woofer loading, innovative tweeter, and no-compromise execution, the Eminence can lay claim to being one of the world's most sophisticated loudspeakers. All that cutting-edge technology is in service to a single goal: to make the speaker disappear. And disappear it does, not just spatially but in tonal colorations and dynamic eccentricities as well. The Eminence is as colorless in timbre as you'll find, and its ability to convey music's rhythms, dynamic accents, flow, and energy is spectacular. The sound is decidedly "top down," favoring dynamic agility, speed, and a light-on-its-feet character



over the last measure of bass weight and extension. The electrostatic-like midrange transparency and resolution vaults the Eminence into the upper echelon of the world's greatest loudspeakers. (293)



#### MBL 101 X-treme

#### \$263,000

Comprising two Radialstrahler columns and two outboard, powered subwoofer stacks, the 101 X-tremes are giants. Expensive giants. But until you find a speaker system that sounds more like the real thing (on every kind of music) for less money...well, you're gonna have to settle for second best. As good as drivers-in-abox speakers have gotten to be, nothing else, dynamic or planar, sounds like these gargantuan Radialstrahlers, because very little else projects its energy, from top to bottom, throughout a true 360 degrees, like

instruments themselves do. As a result, the 101 X-tremes simply own the third dimension. As JV said in my original review of the X-tremes a decade ago, listening to every other transducer is like going to a movie of a concert; listening to the 101 X-tremes is like going to the live event. If you've got the dough (and the space) and are looking for the closest approximation of the real thing, these are the transducers to own. JV's references. (301)

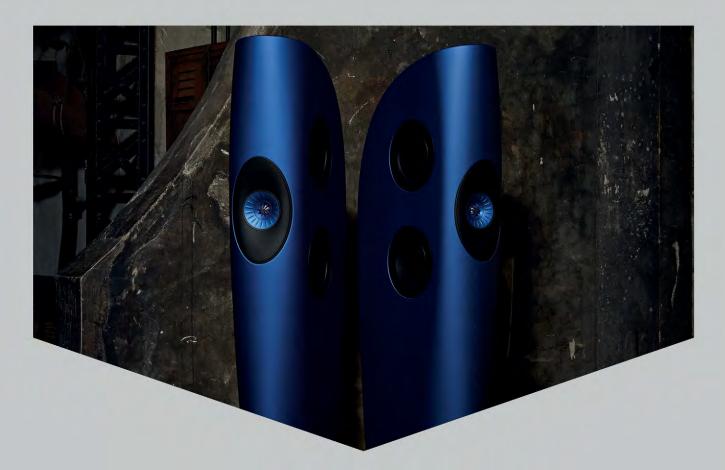
#### Wilson Audio Chronosonic XVX Loudspeaker/Subsonic Subwoofer/ActivXO Crossover

#### \$329,000/\$37,500/\$4500

Wilson Audio's latest speaker is a landmark achievement, setting a new standard of realism in reproduced music, regardless of technology. The massive four-way, seven-driver speaker, housed in five separate enclosures, features new drivers, cabinet materials, crossover components, even

binding posts. The XVX shares with Wilson's \$850,000 WAMM Master Chronosonic the ability to time-align the driver outputs at the listening positions with astonishing accuracy—within just two microseconds. The XVX has stunning transient performance and dynamic agility, a gorgeously beautiful midrange that combines harmonic warmth with high resolution, a sweet-sounding top end, and world-class soundstaging. The result is a transducer capable of conveying a wealth of musical expression, from the smallest subtleties to the most visceral. A world-class reference that advances the state of the art in loudspeaker design. (308)





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#### **JL Audio Dominion**

d08, \$1000; d10, \$1200 (black ash, add \$100 for gloss black)

JL's less costly Dominion series shares much of the design technology and all the philosophy of its more upscale models. What

differentiates the Dominion from the slightly more expensive E Series? First the E-series has more sophisticated electronics. Second, the Dominion's drivers don't use the dual-spider technique of the E subs, and third, their baskets are not as deep. For a multi-purpose living room system, a combination of two Dominion D110s and JL's CR-1 electronic crossover is just the thing to help your system go from extremely good to arrestingly excellent. (313)

#### **REL Acoustics T/7x**

#### \$1099

A special round of applause is due this mini-sub for music lovers. The T/7i is even faster and tighter than its forbear, yet remains tonally supple, with well-defined timbres. It's also remarkably potent for a single, forward-firing 8" driver augmented by a quick-reacting, downward-firing 10" passive radiator (and a smooth 200W Class AB amp). The sumptuous high-gloss lacquered enclosure with aluminum accents has inputs for high-level Neutrik Speakon (cable included), plus low-level RCA and LFE. A little classic. (265)



\$1499

Almost impossibly small but packing dual active drivers and twin passive radiators plus 1500W of Class D DSP-controlled power, the little X captures the realism of the concert hall. Bass is full bodied and controlled, and exhibits the requisite bloom and resonant sustain expected of a subwoofer in the bottom octaves. Not just for the classical or jazz aficionados, the SuperSub willingly hits the dance floor with all the right moves—rhythmic output, speed, and punch that belie its modest dimension. It will mate superbly with a wide range of compacts and smaller floorstanders and fit into almost any room. Home cinema anyone? You betcha. A subwoofer of estimable shock and slam along with musical subtlety that's also a bargain to boot. (287)



#### JL Audio e110/e112

\$1800/\$2300 (black ash, add \$200 for gloss black)

Before he got this hefty little cube (with 10" driver) from JL Audio, JV was anything but a fan of subwoofers, which always seemed to take more away in midrange transparency, tone color, and resolu-

tion than they paid back in bass-range extension, detail, and power. Crossed over at the right frequency—which is easy to do with the instructions that JL provides and the e-Sub's manifold built-in controls, including a genuine fourth-order Linkwitz-Riley high-pass/low-pass crossover—the e110 is the very first sub he's heard that doesn't screw up the sound of the main speaker. Rather it seems to extend that sound into the bottom octaves, producing some of the highest resolution of bass timbres and textures he's heard from any transducer. (244)

#### GoldenEar Technology SuperSub XXL

#### \$2499

Speaker maker GoldenEar Technology is legendary for extracting big sound from reasonably priced products. The SuperSub XXL is a case in point. The company has crammed an astounding amount of technology into this fairly diminutive subwoofer, including a 1600-watt digital amplifier that is controlled by a 56-bit DSP device with a 192kHz sampling rate. Add two 12" long-throw active drivers and two infrasonic drivers, and you've got a recipe for a powerful, bone-crushing sub. No matter the source material—rock, pop, or classical—the XXL will deliver a deep and tuneful foundation that helps to create an airier and wider soundstage. (264)

#### **REL S/812**

#### \$2999

The S/812 hits all the bottom-octave benchmarks we've come to expect from REL's top-drawer subs. Luxuriously finished, the S/812 is equipped for battle, with 800W of Class D power, a twelve-inch forward-firing driver, and a matching downward-firing passive

woofer. Frequency extension is rock stable and linear, plummeting like a pile driver into the 20Hz range with nary a resonance, squeak, or rattle. Even at assault-force levels,



NG wasn't able to trigger spurious resonances or overhang. Though its emphasis is on speed and control, the S/812 doesn't clamp down on decay cues or attenuate instrumental resonances. It provides a firm foundation beneath the music that fortifies images, perspective, and scale. (308)



#### JL Audio CR-1 Crossover

#### \$3000

Outboard active analog crossovers are scarce on the ground nowadays. Which is why JL Audio's CR-1 subwoofer crossover comes as such a surprise. You've got to hand it to Brett Hanes and his fellow engineers at JL Audio: They are serious about subwoofing, and the CR-1, which took years to perfect, is a serious effort to optimize the interface between your main speakers and your subs. Built around two banks of extremely high-precision Linkwitz-Riley low-pass and high-pass filters, the CR-1 gives you an entire toolbox of controls that allows you to dial-in the hinge frequencies, slopes, output, and damping (Q) of both the mains and the subs. Though JV has never loved outboard crossovers because of the price they so often exact in transparency, resolution, and dynamic range, the CR-1 appears to be an exception. It is highly transparent, and the improvements the CR-1 can make in achieving a truly seamless blend through the crossover region are considerable—and quite audible. Note that the CR-1 lacks a phase adjustment, which isn't a problem when used with JL's subwoofers which have their own integral phase control. (254, 283)

## Introducing

# Peak Series

A brand new loudspeaker collection from YG Acoustics

YG ACOUSTICS

#### AudioKinesis Swarm

#### \$3200

The Swarm is a subwoofer system with four subwoofer enclosures powered by a single high-powered amplifier, the four being connected in a series-parallel configuration. Placed suitably, the four subs make possible a remarkable uniformity of bass response over a considerable area, following acoustic ideas originated by Earl Geddes and later seconded by Floyd Toole. This statement of fact hardly does justice to the positively enveloping sound one obtains. The room around is all but erased and the acoustic signature of the recording venue, which is carried in so large a part by the bass, is revealed, nay experienced directly, to a startling extent. The prospect of having four subs in a living room is less daunting than it might seem—each sub can be placed with its driver facing the wall, at which point



the sub looks like a rather elegant, if solid, end table. This type of system is the future of bass reproduction in REG's view, and the price here is extremely reasonable as well. (252)

#### **REL 212SX**

#### \$4200

The REL 212SE was designed to offer clean prodigious deep bass output at a reasonable price. In a beautifully finished piano-black cabinet, each 212SE houses two front-facing 12" drivers made of continuous cast alloy and capable of an astounding 2" linear excursion. The bass drivers are driven by an onboard Class D amplifier rated at 1000 watts. Each cabinet also contains a back-facing 12" passive radiator



and a downward-firing 12" passive radiator, both made of the same alloy material. In use, the name of the game for this subwoofer is speed, speed, speed, with negligible distortion. Because of that speed, reviewer Don Saltzman found it was much easier to mate the 212SE with full-range loudspeakers. Basically silent until called upon for action, a pair of 212SEs will radically increase the perceived sense of air and space of almost any recording. At the same time, definition is precise and output capabilities are immense, adding enjoyment to listening to everything from jazz and orchestral music to the most intense effects-driven movie soundtracks. New 212SX (not reviewed) brings upgraded technology and performance. (212SE reviewed in Issue 285)

# We can take you there! again











#### JL Audio Fathom f112/ f113v2

#### \$4500 (f112v2); \$5500 (f113v2)

These two subs-identical except for woofer size (12" vs. 13.5") and amplifier power (1800W vs. 3000W)—raise the bar in subwoofer performance with their unlikely combination of brute-force power and tonal and dynamic finesse. Capable of delivering high SPLs at very low frequencies without strain, the Fathoms are adept at resolving the pitches, dynamics, and timbre of an acoustic bass. Loaded with useful adjustments, including low-pass filter, polarity, variable phase, and ELF trim. Built-in DARO room correction, considerably upgraded in the newer V2 models, greatly smooths in-room response and makes for eas-



ier integration with your main speakers. Reference-quality performance at a reasonable price.

#### Wilson Audio ActivXO

#### \$4500

The new ActivXO subwoofer crossover is an updated version of Wilson's long-standing WATCH Controller. The all-analog ActivXO is a dual-channel unit, meaning that it can control two subwoofers with independent fine-tuning of each. These adjustments include the crossover frequency and slope, as well as continually variable phase for each sub. Balanced and unbalanced inputs and outputs are provided. The ActivXO can be operated as a high-pass filter and a low-pass filter in those systems where high-pass filtering the main speakers is desired. Alternately, the unit can low-pass filter the signal driving the subwoofer amplifier while leaving the signal driving the main speakers unfiltered. (308)

#### JL Audio Fathom IWS In-Wall Subwoofer

#### \$5500/\$9000

Leave it to JL Audio to reinvent the in-wall subwoofer. Forget the stereotypes of in-wall subs-bloated mid-bass, no real low bass, and as much sound coming from wall vibration as there is from the subwoofer. The IWS system eliminates these problems by isolating the woofer enclosure from the wall structure with an innovative suspension system. Second, JL has shoehorned many of its patented technologies into a shallow version of the fabulous 13.5" driver first developed for the company's Fathom

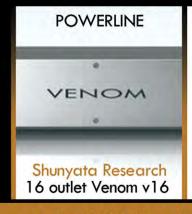
f113. Third, the woofer is powered by a hefty outboard amplifier with integral crossover and JL Audio's superb DARO 18-band DSP room correction. Five enclosure sizes are available depending on the stud depth and number of woofers in the enclosure, along with two amplifier configurations, with each tailored to a specific enclosure volume. All this attention to detail pays off; the IWS delivers deep, clean, well-defined bass with zero audible wall vibration or rattling. A great product that fills a much-needed niche. (300)

# ...but you will hear it like never before!

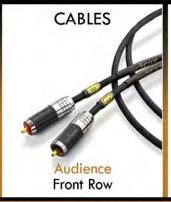
# There is More. We can help you find it.

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It's all there, let's uncover it!









#### JL Audio Gotham g213v2

#### \$18,000

This gigantic \$18k subwoofer with two 13.5" drivers has simply redefined subwoofing for JV. Never a fan of subs, he's been turned around by this wonderful product, which in combination with JL's CR-1 crossover, is capable of a more seamless blend with main speakers (be they twoways, panels, or multiways) than anything he's yet heard (in fact, than anything he imagined possible), with next-to-none of the midrange veiling—the loss of resolution and transparency—that was inevitably part-and-parcel of subwoofing in the not-too-distant past. What the Gotham does is open up an entire new world of loudspeaker possibilities, wherein smaller and/or less expensive mains can be made to sound a whole lot like Wilson Alexandrias or Rockport Arrakis or Magico M 6s, for a lot less dough. JV's reference. (254)





#### Wilson Audio SubSonic

#### \$37,500

Most subwoofers today pack a large driver into a small enclosure, and then massively equalize the drive signal to compensate for the lack of cabinet volume. The Wilson SubSonic is not one of these. Rather, the SubSonic's enclosure is as big as it needs to be for the woofers to operate correctly without resorting to equalization. About as tall and half as wide as a refrigerator, and weighing 610 pounds, the SubSonic requires a serious commitment of money, space, and an outboard amplifier to drive it. The three 12" long-excursion woofers in the ported enclosure deliver bass response that is flat to an astonishing 10Hz (-2dB). Make no mistake; the SubSonic will reproduce music's lower octave with majestic power and grace. By reproducing low-frequency spatial cues, the SubSonic greatly expands the soundstage, resulting in a markedly higher level of realism even on music without much bass extension. Requires an outboard amplifier and crossover, such as Wilson's ActivXO. (308)





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WHAT OBSESSION SOUNDS LIKE



#### NuPrime STA-9

Generating 120Wpc and weighing just under 10.5 pounds, the STA-9 uses a Class A input circuit

with a Class D output stage. NuPrime's

website says it "is designed with enhanced even-order harmonic circuitry that mimics the most attractive features of tube-amp sound without incurring tubes' drawbacks and limitations." It's easily bridgeable into 290Wpc monoblocks, and its 47k ohm input impedance should work with virtually any preamplifier. In monoblock mode, the STA-9 produced powerful bass, even with the small KEF speakers. (273)

#### Audio by Van Alstine Vision SET 120 \$899

The solid-state Audio by Van Alstine Vision SET 120 is rated at 60Wpc into 8 ohms and "much more" into 4 ohms. AVA doesn't publish full specs, although the website states that they are available on request. (In keeping with the AVA spirit reviewer DK chose not to request them.) In any event, those 60 watts were plenty for driving DK's Monitor Audio Studios to a more than room-filling blast, never losing control despite the raging instrumentation swirling around the driving backbeat of Spiritualized's challenging And Nothing Hurt album. Like its companion AVA Transcendence RB 10 preamp, the

Vision SET 120 is the best bargain DK has reviewed. An easy recommendation. (290)



#### Odyssey Khartago Stereo/Mono

#### \$995/\$1975/pr.

Although the 130Wpc Odyssey Khartago solid-state stereo amp has been around for better than a decade, it was new to JV until amp-connoisseur Alon Wolf (of Magico) told him he used it in his shop and it was excellent. Wolf was right. Although the Khartago doesn't have all the articulation and transparency of the standard-setting Soulution 711 stereo amplifier, it has a surprisingly similar balance, no discernible grain, high resolution, and a deep, wide soundstage. Positively, the best budget amp JV has heard, not counting the Odyssey Khartago monoblocks, which have the same power rating as the Khartago but a stiffer power supply and wider bandwidth, giving them the same basic sound as the two-channel unit with slightly more resolution, dynamic oomph, top-end air, and channel separation. (194, 246)



#### Optoma NuForce STA200

#### \$1299

Basic solid-state power amplifiers are not, due to their essential nature (boxes with parts inside), sexy objects that inspire a lot of audiophile lust. The STA200 will never be accused of looking sexy or especially stylish, unless you're into stark minimalism. But if sound quality and solid-state reliability are your primary purchasing criteria, the STA200

should be on your radar. You may not be blown away by the ST200's looks, but its sound turns it into one sexy beast. (268)



#### Channel Islands C•100S

#### \$1495

For some audiophiles the highest praise that can be heaped upon a solid-state or digital amplifier is that is sounds "tube-like." My position is different. I prefer a power amplifier that attempts to sound as invisible as possible, a straight wire with gain, to repeat that old audio cliché. The C•100S stereo power amplifier provided more than enough power to drive all the loudspeakers I threw at it and did it in a way that allowed each loudspeaker's unique personality to come to the foreground. I suppose if you want an amplifier that has "personality" you should look elsewhere. But if you need a harmonically neutral power



amplifier that you can attach to a wide variety of loudspeakers, the C•100S stereo power amplifier would be an excellent choice. (297)

#### Audio by Van Alstine Ultravalve \$1599

According to Frank Van Alstine, the Ultravalve's lineage is traceable to the Dynaco Stereo 70, which he denotes as its "great grandmother." Although not as romantic sounding as the original, it



is far better focused, and in general sounds like a higher-resolution device. It handles bass lines with superb control and good impact and is capable of dishing out plenty of boogie factor. Its ability to retrieve microdynamic nuances allows for the full scope of the music's dynamic intensity and interaction between musicians to shine right through. (204)

#### NuPrime AMG STA

#### \$1695

The NuPrime AMG STA is a sleek, compact Class



D power amplifier with a Class A preamp stage and a linear power supply. The box is simple, with only a metal switch on the front, a small white LED indicator, and the NuPrime logo. It outputs a solid 130Wpc into 8 ohms in stereo mode and 300Wpc into 8 ohms in mono mode. The AMG STA sounds easy and relaxed with a decently solid low end and a crisp, pleasant midrange. It has enough power to run difficult-to-drive speakers in either stereo or mono mode, and a warm finesse that pairs well with most setups, especially with the NuPrime AMG PRA preamp. (319)







"Discovering rich new meaning in well-worn LPs is perhaps the most profound testament to the Transcendence's preeminence. I consider the Transcendence **one of the greatest achievements of high-end audio**, not just in turntables and tonearms, but across all product categories."

- Robert Harley, The Absolute Sound, July/August 2019

"The **A.J. Conti Transcendence** is an invaluable tool for me, in addition to being supremely pleasurable to listen to! To put it simply, it tells me the truth about the vinyl I have on...I spend a lot of time in studios and the only thing I can compare it to is a perfectly maintained Studer tape deck."

- Joe Harley, Record Producer



#### THE A.J. CONTI TRANSCENDENCE

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#### Coincident Speaker Technology Dynamo 34SE MKIII

#### \$1799

The swanky Dynamo isn't your typical 8Wpc single-ended triode (SET) design. There is no 300B in sight. A 6SL7 dual-triode drives a triode-connected EL34 output stage. There is no global feedback, and the power supply is tube rectified. Expect a sweet midrange, an exceptionally dimensional soundstage, and a dynamic presentation belying the amp's miniscule power rating—at least when driving a high-sensitivity loudspeaker. Harmonic textures aren't overly liquid, implying decent-bandwidth output transformers. Treble textures can be improved via judicious tube-rolling. Here is an amp that shouldn't be defined on the basis of its cost. It captures much of the magic of SETs at an entry-level price for that technology. (250, 283)



#### **NAD C298**

#### \$1999

NAD's C298 is built around a new Class D output stage called "Eigentakt" ("self-clocking") that represents a significant technical advance in switching amplification. The C298 is rated at 185Wpc into 8 ohms and 340Wpc into 4. The amplifier is packed with features, including balanced and single-ended inputs, variable gain, a bridging function for monaural operation, and an auto-on feature when signal is detected. The C298 sounds like a powerhouse, with effortless dynamics, a tight and solid bottom end, and a general sense of ease during complex passages. The C298 went very low in the bass, had a nice sense of midbass heft and weight, and outstanding dynamic punch. The C298 had an unusually satisfying ability to convey music's rhythmic flow and forward propulsion. The midrange had nice presence, with a bit of forwardness from the upper mids to the lower treble imparting a lively quality. The C298's soundstaging was outstanding-big, open, spacious, and detailed, with precise image placement. A lot of amplifier for the money. (313)

#### **Odyssey Stratos**

#### \$2700/pr.

These \$2700-the-pair, ultrahigh-speed, ultra-high-bandwidth monoblocks from Klaus Bunge are phenomenally good for the money.



Of course, there is a reason for this—their family heritage. As was the case with Klaus' near-equally wonderful Khartago stereo and mono amps, the Stratos uses the same circuit as Germany's celebrated Symphonic Line monoblock amplifiers. Even if you A/B'd these monoblocks with super-amps like Soulution's 711 (as JV did), you might still find yourself pondering whether the difference in sound justifies the difference in expenditure. That JV ultimately thought it did is beside the point. The way he sees it, the fact that the Odyssey Stratos monoblocks could give even a picky listener like him pause makes them super-amps in their own right. Yes, you can buy better. The question, as JV said in his review, is: "Do you really want to?" (248)

#### Audio by Van Alstine FET Valve 600R

#### \$3199

Frank Van Alstine's 300Wpc hybrid amp is based on AVA's patented forward transimpedance design. A 12AT7 triode front end is coupled to a fully complementary power MOSFET output stage. The stock JJ Electronic tubes are quite musical, so there's no compelling reason to tube roll. No, it doesn't sound like a tube amplifier, but what sets it apart from a host of solid-state designs is its soulful midrange and ability to retrieve music's drama and tension. Tack on decent spatial delineation and you have the making of a successful hybrid design. It's a complete package

featuring low distortion, superior speed, killer bass, and superb dynamics. The treble is somewhat closed in, and harmonic colors are on the dark side of reality, requiring careful system matching. At its best, the 600R can sound much like a \$20k power amplifier. (225)



#### NAD Masters Series M22 V2

#### \$3290

The partner to the excellent M12 preamp/DAC, the M22 is a 250Wpc hybrid Class D amplifier that uses the latest nCore amp technology licensed from Hypex. A paradigm of power and touch, its bass response is startling in its boldness, extension, and iron-fisted grip. Yet it goes deeper, exploring more of the dynamic contrasts and harmonic complexities that define the timbre of a bass drum or the skin of a timpani or the drumhead of a tom-tom. But it's not just about the bottom octaves—particularly rewarding is the broader, more crisply defined frequency extension, color, and open window of transparency that makes the M22 all but invisible to the ear. A serious and masterful effort. (258)



# PERFECTLY\_\_\_\_\_AAVIK C & P 580 MATCHED

The new series of control and power amplifiers







#### HIGH-END AUDIO BUYER'S GUIDE 2022

#### Rogue Audio DragoN

#### \$3995

The DragoN is a sophisticated hybrid-tube/ Class D design that stands atop the Rogue lineup. Boasting 300Wpc into 8 ohms, the DragoN manifested a level of near-granular finesse and clarity, from the snap and rattle of a snare drum at the back of the hall to the flutter of a harp. Speed and transient information were naturalistic and lively and tonal balance predominately neutral, with glimmers of midrange warmth and a well-defined presence range. Strings were particularly well-rendered and distinct, with contrasting attack and resonances. Bass response and retrieval were superbly controlled. And always lurking at the ready was the voice of authority, eager to reproduce an organ's pedal points or the heavy left hand of a pianist striking the bottom-octave keys of a concert grand. Not just another high-powered beast, the Rogue Audio DragoN is truly a splendid piece of electronics. (311)



#### Cambridge Edge W

#### \$4000

Reviewed alongside Cambridge Audio's Edge NQ network preamplifier, the 100Wpc Edge W power amplifier delivers on this London-based manufacturer's definition of Great British Sound. Opposing-symmetry twin transformers (which cancel electromagnetic interference) contribute to a substantial physical presence, but the performance is anything but heavy. Instead, look for sonic clues in a signal path of just 14 components. It's this less-is-more approach (also wonderfully realized in the minimalist aesthetic) that has resulted in a power amplifier with surprising transparency and composure. Neither imposing nor polite, the W is a fitting 50th Anniversary celebration from a company known to provide innovation with value. (301)



#### First Watt F8

#### \$4000

For over 15 years First Watt has served as Nelson Pass' creative playground, allowing him to explore unusual low-power designs with an emphasis on sound quality. The F8 is a stereo single-ended Class A amplifier with only two gain-stage devices per channel, a single Toshiba 2SJ74 JFET input device



and the SiC R100 power JFET output. The resultant airy treble, tonal purity, and superb transient speed are instantly endearing. So is the startling soundstage transparency. The F8 allows tube virtues such as a deep and layered soundstage to shine through, while maintaining an authoritative midbass. The F8 is a reference tool in the finest sense of the words, exceptionally revealing of what comes before it in the playback chain. (forthcoming)

#### Atma-Sphere S-30 Mk 3.3 \$4700

The Mk 3.3 version of this 30Wpc Circlotron OTL amplifier nudges performance higher in dynamics and soundstage transparency. Although guilty of slight timbral alterations and a somewhat dark tonal balance, these acts of commission, likely due to load interactions, point out



the need for a compatible loudspeaker and front-end electronics. The S-30 strikes an intelligent balance between quality and quantity, focusing as it does on delivering a strong first watt. Its asking price is a small price to pay for a generous slice of musical heaven. (261)

#### Pass Labs XA25

#### \$4900

The XA25 amp is among Pass Labs' most humble efforts—at least outwardly. The solid-state, single-ended Class A design is rated conservatively at 25Wpc into 8 ohms, so users will need to be a little respectful about speaker selection. But, beyond that, prepare to luxuriate in pure liquid

musicality. Pass gear often suggests sweetness and warmth, but the Class A topology of the XA25 takes this quality a luminous step further. Images are conveyed with a weightier sense of physicality—a visceral feeling of mass as well as air. Simply listening to a solo piano revealed heretofore unheard shifts in the micro-dynamics from the player's keyboard touch. Beyond the deep resolution engraved in the XA25's personality was its ability to transform a listening space into a three-dimensional tableaux. (287)

#### Bel Canto Ref600M

#### \$4990/pr.

To SS's ears Bel Canto's 15.4-pound, 300W (600W into 4 ohms) Ref600M Class D monoblock is good enough to qualify as the best all-around power amplifier he's heard to date, regardless of technology or circuit topology. Its combination of extremely low noise (which makes it suitable to drive even highly efficient loudspeakers),



precision three-dimensional imaging, relaxed and natural harmonic balance, and power capability makes for a potent package. Couple all its sonic achievements with its relatively modest price, and you have a power amplifier that could well be a benchmark reference for many audiophiles for years to come. (269)



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#### **Audio Mirror SET**

#### \$4995/pr.

This 45-watt monoblock expands the useable reach of SET designs to include even moderately sensitive 88-to-90dB loud-

speakers. Each monoblock has a pair of Russian 6C33C-B triodes in parallel, thereby significantly extending power delivery. The bass range is well defined, which serves as a foundation for a slightly warm and powerful presentation with satisfying tonal gravitas and a sense of ease on dynamic peaks that is uncommon for a typical SET. The treble range is spacious and adequately detailed, while harmonic textures are pretty much in the Goldilocks zone, neither overly liquid nor threadbare. Plan on coupling the Audio Mirror with a high-res preamp in order to plumb the depths of a particular recording. (289)

#### Luxman MO88uC

#### \$5995

In the past, tube amplifier introductions by Luxman (which has been manufacturing tube amps continuously since 1961)



have typically been a cause for celebration, and the 25Wpc, KT-88-based MQ-88uC is no exception. Modeled after the vintage Luxman MQ-60 amplifier, which dates back to 1969, the new amplifier is a modernized version of the MQ-60 (itself a triode version of the classic Mullard 5-20 circuit). After break-in, the Luxman's twin sonic virtues of clarity and control came into sharp focus. Transients were reproduced with a sense of speed and finesse that pentode amps would be hard pressed to match. Nothing short of a musical treasure. (297)

#### McIntosh Labs MC275 VI

\$6000

The sixth version of this most classic of all McIntosh amplifiers is by far the best, boasting greater tonal neutrality yet without losing the beautifully solid, rounded, dimensional, and natural musicality of its tube origins. Thanks to improvements

in the transformers, distortion and noise are far lower than ever, bandwidth higher, dynamic range wider, transparency greater, and transient response better than ever. At 75Wpc (though 90 is typical), the 275 has virtually all the power PS needs, but for those who want more, it's strappable to a 150W monoblock. Whether used alone or with the C22 preamplifier, the MC275 makes utterly fabulous music, and its traditional looks make it, like the C22, a feast for the eyes as well as the ears. (266)

#### **Anthem STR**

#### \$6500

Anthem's STR amplifier is a muscular yet stylish component that outputs 400 watts into an 8-ohm load, 600 watts into 4 ohms, and 800 watts into



2 ohms; there aren't many loudspeakers that this dual-mono design won't readily control. The dual-mono, 65-pound STR features a proprietary input circuit that Anthem calls "a complementary active-loaded cascoded feedback arrangement." Right out of the box, the STR impressed with immediacy, detail, and authority of presentation with all kinds of music. Spatiality and low-end weight were excellent, and there certainly was no question of the STR running out of steam with the most dynamic recordings. Solidly built, great sounding, and a high value. AQ, 298

#### PS Audio Stellar M1200

#### \$6598/pr.

This lithe monoblock amplifier is a happy marriage of old and new technology. It boasts a tube input stage and a Class D output stage that packs colossal power. With 600 watts into an 8-ohm load and 1200 into 4 ohms, it can drive pretty much any loudspeaker with aplomb. And it does. There are few, if any, amplifiers that will grip the bass drivers as tenaciously as the M1200. Its transient speed can only be described as stunning. The treble re-



gion can become a little bright, but the overall performance that the Stellar offers is truly stellar. (313)

# Linear Tube Audio ZOTL Ultralinear

The Ultralinear (UL) amplifier expands Linear Tube Audio's portfolio of David Berning designs yet again, and marks Berning's resumption of his "love affair" with TV sweep tubes, namely the 17JN6 Compactron. All of the tubes are auto-biased, so there should be no worries about matching them. While 20Wpc into 8 ohms may not sound like much, the UL actually sounds as dynamic as the ZOTL40 and eclipses it in bass definition. Sonically, the UL has much in common with Berning's discontinued but legendary ZH270. Common denominators include transient speed and control beyond the capabilities of ordinary tube amps, as well as electrostatic-like midrange clarity. In DO's estimation the best low-power, push-pull



ZOTL power amp Berning has designed to date. (Not yet reviewed is the newly released Ultralinear+ version, same price)

#### Sanders Sound Magtech

#### \$7000

This no-nonsense amplifier was designed to drive any loudspeaker load, particularly full-range electrostatics, which can have an impedance of less than 1 ohm in the top octave. The Magtech "sounds as if it had infinite power into anything, with total stability," said REG. The fully regulated power supply is unusual. Delivering 500W into 8 ohms and 900W into 4, and fully stable driving capacitive loads, it is the perfect choice for electrostatic speakers. (211)





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#### VTL ST-150

#### \$7000

VTL's ST-150 is a relatively compact yet powerful 6550-based stereo power amp capable of driving a wide range of speaker loads. This classic all-tube push/pull design

delivers 150Wpc in its tetrode mode, and, via the flick of a rear-panel toggle, 70Wpc in triode operation. For those who might be intimidated by the idea of tubes, VTL has made the ST-150's manual bias-adjustment fairly straightforward. Sonically, this is a beauty of an amplifier, with highly natural tonal and textural delivery, an impressive layering of dynamics, as well as nice drive and transient pop, and a strong degree of transparency back to the original session. The sense, as it should be, is not of listening to gear but that the gear is a conduit for the music. (251)

#### PrimaLuna DiaLogue Premium **HP Mono**

#### \$7798/pr.

For someone looking to indulge in the tube experience, with most of the drawbacks superbly minimized, GW cannot recommend



the 70Wpc (40Wpc in triode) PrimaLuna DiaLogue Premium HP highly enough. It offers creative and thoughtful design, exceptional build-quality, first-rate parts and assembly, tremendous attention to detail, and elegant look and feel—and its sonic performance is clearly well above its reasonable asking price. (269)

#### NuPrime Evolution One \$7990/pr.

The space-saving, cool running, 240W Class D Evolution One goes a long way toward



redefining the monoblock segment. The absence of colorations lends the Evolution One an almost chameleon-like personality; these amps become a kind of cipher that morph into whatever associated source signal is poured into them. Transients are naturalistic, and there's no indication of etch or grain in the upper octaves. Another key is the finesse with which the amp reproduces inner detail. The Evolution One goes beyond the traditional Class D playbook by not only producing the expected low-end extension and slam, but by also focusing on the textural elements, the "bloom factor," that define kettle and kick drums. (298)

#### MBL Cadenza C21

#### \$9200

Sounding more like a fine linear amp than the hybrid-switching amp it is, the 180Wpc C21 offers much of the lush sweetness and sonic gravity of MBL's own Reference Line 9011 monoblock. It may not have the 9011's slam, but in most other ways the C21 bears a strong resemblance to the flagship's air and dynamic energy. Its top end, where Class D has previously struggled, is smooth and extended, not glassy. Its low end is elegantly controlled but not over-torqued.



Rather it has a bit of dark velvet bloom, imparting the full measure of harmonic and ambient decay and timbral resonance with acoustic music. This is an amp that can proudly stand next to the best in its class—switching or non-. (228)

#### Aesthetix Atlas Stereo

#### \$10,000

Aesthetix's first foray into power amps is an unqualified success. Aesthetically, the Atlas is handsome in a brawny but tasteful way. Its front panel offers a convenient menu-system for input selection and crossover point, the latter feature allowing the amp to easily mate with a subwoofer. Sonically, the amp has great resolution and reflexes, making it a snap to follow interleaved melodic and rhythmic lines. The Atlas creates a cloud of air around each instrument, and a deep convincing sense of space. Indeed, its resolution, timing, and imaging are beyond reproach. Tonally, this amp is on the sweet side in a way that is consonant with real music. The Atlas is slightly less incisive dynamically than AT's reference



amp, but so is pretty much everything else. Ultimately, the Atlas is a sheer joy-both sonically and musically—to listen to. (196)

#### Audio Research VT80SE

#### \$10,000

A 75Wpc hybrid power amplifier using KT150 power output tubes, this latest addition to Audio Research's Foundation Series, the lowest-priced products in the Audio Research lineup, shares a common styling theme with the rest of the series. It is the first Audio Research amplifier with automatic bias setting, which lets the user choose 6550, KT88, KT90, or KT120 output tubes in addition to the stock KT150s. Output tubes are individually fused to protect the circuit against cata-

strophic tube failure. The VT80SE produces open, detailed sound with exquisite harmonic nuance and shading. (285)



#### Bel Canto Black EX

#### \$10,000

This powerhouse Class D amplifier (350Wpc into 8 ohms, 700Wpc into 4 ohms) sounds more like Class A than Class D. The 25-pound unit has a very neutral sound, with a somewhat laid-back upper-midrange and lower treble that result in reduced listening fatigue. The bass is very well definedquick and tight rather than warm and rich. The bottom end is also extremely dynamic, and coupled with the virtually Black EX's unlimited power, will exploit the bass output and dynamic capabilities of just about any speaker. (290)



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#### Zesto Audio Bia 120

#### \$10,900

Zesto's Bia 60Wpc Class A all-tube power amplifier, with styling to match the company's Leto linestage and Andros phonostage, brings the designers the trifecta. As with the preamps, Bia's personality consists in a completely seductive musicality free from



all the usual sorts of electronic colorations and artifacts, for a presentation that never, ever sounds electro-mechanical, instead always wholly natural. Dynamic range is prodigious, the Bia even driving PS's inefficient Quad ESL 2805s to clear, clean, unstrained levels. Broadly neutral but not completely accurate, the sound here is more beautiful than real. Luscious, velvety, silken, gorgeous, it's the kind of sound around which audio cults develop. (244)

#### Classé Delta Stereo

#### \$12,999

The Montréal company's stereo amplifier is a brute, designed with difficult loads in mind. It's rated as 250W into 8 ohms and 500W into 4 ohms, and it's doubtful that too many loudspeakers will faze it. The

first 12.5W are pure Class A, so significant heat is generated. A silent thermostatically activated fan pulls room air into the device through a louvered vent that is expelled to the rear; so the top of the amp barely gets warm. There are VU meters in front, two pairs of robust binding posts behind, and Navcom footers underneath. The amplifier provides plenty of muscle when needed but is also capable of subtle dynamic gradations. (312)



#### Bryston 7B3

#### \$13,590/pr.

This fully balanced, Class AB amplifier packs 600 watts (8 ohms) into a normal-sized, 42-pound single chassis per channel. The previous generation "squared" series improved output-stage performance whereas the newer "cubed" series improves the input stage. The result represents a more refined sound

for Bryston overall. The 7B3's bass extension and stability during demanding musical passages, coupled with relatively low noise, impart an admirable sense of ease to the presentation. Soundstage depth is in keeping with other solid-state amps at its price level, but width and height are exceptional. (269)

#### Constellation Inspiration Stereo/Mono

#### \$14,000/\$28,000/pr.

This 250Wpc stereo amplifier is based on the same circuit as Constellation's \$210k Hercules. Through the Inspiration offers a less expensive implementation of the Hercules' topology, Constellation has still managed to bring the big amp's DNA to a more affordable price. Although not a budget item, a Constellation amplifier at \$14k is something of a breakthrough. Like the Hercules, the Inspiration Stereo has lifelike illumination in the mids and treble, exquisite resolution of fine detail, and outstanding transparency. Surprising-

ly, the Inspiration's bass may even be deeper and more powerful than that of the original Hercules. The mono version brings 500W to the party. Sonically, the two are very similar, sharing the Constellation hallmarks of transparency and resolution. Overall, both amplifiers are fantastic values. (249)



#### **VTL S-200**

#### \$15,000

VTL's Luke Manley and his team have made the 200Wpc S-200 relatively idiot-proof



for listeners who enjoy the sound of vacuum tubes without the need to geek-out or otherwise futz around with them. The Signature range features fully balanced differential circuitry and zero global negative feedback, which not only ensures stability under a wide variety of load conditions but also brings greater musicality to a variety of source material. Beyond its outstanding sound and sonic flexibility in both triode and tetrode modes, this KT88-based stereo amp presents music as a cohesive and engaging whole. (290)

# PS Audio BHK Signature 300

#### \$16,498/pr.

This 300W (into 8 ohms) hybrid (tube input stage/MOSFET output stage) monoblock is the distillation of all that celebrated electronics designer Bascom H. King has learned about amplifier circuits. The result is a component so rich, natural,



and highly resolving that reviewer Anthony H. Cordesman bought the review samples. A genuine masterpiece from an Old Master. (259)

#### Technics SE-R1

#### \$16,999

Forming the heart of Technics' superb R1 system is the 150Wpc (300Wpc into 4 ohms) SE-R1 digital stereo



amp. Digital amps haven't taken hold in the high end, but their design inherently confers major advantages to digital sources. In particular, they completely obviate the need for a traditional DAC. Technics has complemented the approach with a gallium-nitride FET drive stage that's so efficient it eliminates parallel output transistors. In addition, the amp's LAPC function uses DSP to optimize the amp's amplitude and phase characteristics for the specific speaker attached. One effect of the feature is to flesh out the three-dimensionality of instrumental images. Along with the single output transistors, LAPC may explain why the SE-R1 is the most tube-like solid-state amp AT has heard. The SE-R1's sound also exhibits bold dynamics, staggering detail, and a huge volume of musical information. Most importantly, its sound is pure and direct. A technical and sonic tour de force. (265)



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#### Hegel H<sub>3</sub>0 Reference

#### \$17,000

This Norwegian powerhouse amplifier (375Wpc into 8 ohms) combines the brute-force bass control and dynamic impact of a dreadnought design with a midrange and treble refinement reminiscent of a single-ended triode amplifier. The midrange, in



particular, is highly vivid and present without sounding the least bit pushy or forward, infusing the presentation with a palpability and directness of expression previously unheard in any amplifier near the H30's price. The H30 can be operated in bridged mode for 1000W, but some of the midrange magic disappears and resolution slightly diminishes. A great bargain in high-powered amplifiers. (223)



#### Parasound JC 1+

#### \$17,998/pr.

Redesigned by legendary audio engineer John Curl (hence the JC designation), the 83-pound Parasound JC 1+ not only packs a wallop, but also offers a refined and elegant sound, partic-

ularly in the treble. A hefty power supply and power transformer ensure superb image stability and rock-solid bass. When it comes to a sense of hall space and dynamics, these monoblocks are difficult to surpass, especially when reproducing blockbuster orchestral works. Their sonic signature is never sterile, but voiced on the sweeter side of the musical divide. All the surplus power of the JC 1+ seems to energize the individual notes, resulting in excellent transient response. For power-hungry loudspeakers that feature severe impedance curves, the JC 1+ will provide what amounts to a musical benediction. (316)

#### Air Tight ATM-300R

#### \$19,995

Air Tight has been committed to 300B-based SET amplification for the past 20 years, ever since the release of the iconic ATM-300 in 1999. Mr. Miura, Air Tight's founder, was aim-



ing for an overall sonic presentation that he describes as "tight and clear." The result of his efforts is an extremely transparent soundstage that blows away any residual "cloud cover." The ATM-300R's performance rests on four major sonic pillars working in synergy: velvety textures, remarkable timbral fidelity, superb soundstage transparency and image focus, and a satisfying bass foundation. Reviewer DO has yet to audition a more musically convincing low-power amplifier at any price point (309)

#### FM Acoustics FM 108-MKII

#### \$21,600/pr.

Though the latest Swiss firms like CH Precision and Soulution may be getting the lion's share of attention in the press, venerable Swiss companies like FM Acoustics are still fully competitive. Consider this extremely compact, fairly powerful (70W/66V/15A into 8 ohms, 130W into 4 ohms), beautifully made, and (given its competition) relatively affordable Class A monoblock amplifier from FM's Manuel Huber. This is a very transparent piece of gear that gives you a keen insight into how recordings are being mastered, how instruments are

being played, and how ambient space is augmenting timbre, dynamics, and imaging, and it does all this without adding any sense of the analytic or much color of its own. (285)



#### Zesto Audio Eros 300

#### \$21,900/pr.

This monoblock is the most ambitious offering yet from Zesto Audio. All Zesto products are designed by George Counnas and built in-house. George favors tube technology, and the 300s reflect his current thinking on how to make tubes state-of-the-art today. Besides being stylish and relatively compact, this amplifier delivers the sonic goods. Conservatively rated at 150W into 4 and 8 ohms, the Zesto 300 features Class A circuitry and uses six KT88s per monoblock. The amplifiers belie their rated power, and drive low-efficiency loudspeakers with ease. There is no sonic mystery that these are tube amplifiers; tonal colors are rich and full-bodied with a lifelike warmth that never devolves into softness



or syrup. If anything, the amplifiers are supremely transparent and reveal an amazing amount of musical detail. (273)

#### Audio Research Corporation Reference 160S

#### \$22,000

This stereo version of ARC's celebrated



Reference 160M mono amp combines two channels of the same 140-watt circuit into one chassis—including the same lighted "floating" output meters on the faceplate window—for \$10,000 less. The sound is simply gorgeous: detailed, fluid, commanding, alive, and highly musically communicative. It does not sound overtly euphonic in a classic tube way and drove the not-so-easy YG Sonja 2.2 handily. Rather than a tube amp trying to sound more like a solid-state design, the 160S delivers more of what many solid-state amps can't quite fully realize: outstanding 3-D soundstaging, image density, and tonal complexity—while still providing excellent frequency extension, dynamic control, and overall resolution. A stellar tube amp in its price category. (312)

# Cary Audio 211 FE \$22,995/pr.

A zero-feedback design, the all-triode 211 FE monoblock updates the classic 211 that Cary has produced for 17 years. Though it may lack the ultimate wallop of a



powerful transistor unit, and may—if you're into large-scale classical or hard rock—run out of juice before you want it to, this is one gorgeous-sounding amplifier—pure, exciting, and expressive. (205)





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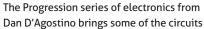
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#### D'Agostino Master Audio Systems Progression S350 and **Progression M550**

\$25,950, stereo; \$44,950/pr., monoblock



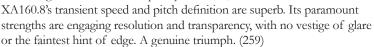


and technology of the vaunted Momentum line to a lower, but still significant, price. The stereo Progression (monoblocks are also available) is a powerhouse, delivering 300Wpc into 8 ohms. As with all D'Agostino designs going back decades, the Progression can double its output power with each halving of impedance. The innovative "Super-Rail" power supply helps the amp deliver superior dynamic detail, impact, and lifelike realism. (300)

#### Pass Labs XA160.8

#### \$27,300/pr.

The 160W, Class A XA160.8 monoblock is yet another inspiring and undisputable success from the mind of Nelson Pass—a man who for the past fourand-a-half decades (his first commercial product was released in 1975) has consistently risen to the challenge of besting himself. At the frequency extremes, the





### Aesthetix Atlas Eclipse

\$28,000/pr.

The hybrid solid-state (there is one 6SN7 tube in the gain stage) Atlas Eclipse monoblock is rated at 300 watts into 8 ohms and 600 watts

into a 4-ohm load—and it is a powerhouse, easily getting the best performance from DS's inefficient Magnepan 20.7s without strain or compression. It is also versatile. For those who use subwoofers with satellite or full-range speakers, the Eclipse can be set up to drive the main loudspeaker while rolling off the low frequencies going to those speakers at 16 different crossover points. The Eclipse does not impose any particular sonic signature upon the music and, far more often than not, reveals air, space, and detail lost on lesser gear. (305)

#### Zanden Audio Systems Model 8120F

#### \$28,000 (including balanced XLR inputs w/input transformers)

For JV, this large, beautifully built and finished, KT120-tube-based, 100Wpc stereo amplifier from Japanese manufacturer Zanden is one of the great surprises of this audio season. Why



a surprise? First, though scarcely inexpensive, it is considerably less money than Zanden's typical gourmet-audio offerings. Second, though completely tube-powered and tube-rectified, it has none of the image blur, dynamic laxness, ambient grain, and timbral heaviness of typical Class AB KT120-based push-pull tube amplifiers. On the contrary, it is exceedingly fast on transients, extremely hard-hitting, extraordinarily finely detailed, with taut bass that is virtually indistinguishable in grip, definition, and impact from that of much top-tier solid-state, and imaging and staging that are truly wall-to-wall. It is also capable of sounding "real" on any number of well-recorded discs no matter the type of music. (243)



#### \$30.500/pr.

Their more-than-twice-astall-as-they-are-wide form optimizes inter-stage isolation, and minimizes both power supply disturbances and overall signal-path length. With 400



watts into 8 ohms (700W into 4 ohms/1100W into 2 ohms), and a damping factor of 10,000 at 100Hz, they can control virtually any loudspeaker, be it dynamic, planar, or ESL, no matter how difficult the load. With vivid harmonic texture, superbly delineated pitch. enormous detail, and lifelike tone color and harmonic bloom, the Maxes breathe life and air into soundstages like few other solid-state competitors. These are truly exceptional monoblocks by any means of comparison, not just at their asking price. (279)

#### Accuphase P-7300

#### \$32,000

Combined with its companion C-3850 preamp, Accuphase's top-line 125Wpc P-7300 stereo amplifier is the heart of a solid, bottom-up-sounding reproduction system. The C-3850/P-7300 never edged into the bright or fatiguing; neither did it veer into the soft and dull. The presentation tended to stay close to the sonic lane that provides long-term listening satisfaction with enough resolution, warmth, and soul to allow full exploration of the music being



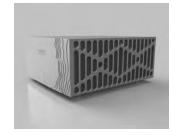
presented. With this setup, the user can tilt to the left brain or the right, depending on mood and desire. (272)

#### Boulder 1160

#### \$33,000

Part of Boulder's least expensive series of electronics, this 300W (into 8 ohms, 600W into 4) stereo amplifier delivers a massive amount of clean, high power and does so in ways that have advantages over much of the competition, including amps that claim similar output power. The 1160 can drive almost any speaker to its limits without changing sound quality, and it can handle even the most demanding mid- and deep-bass transients in an almost effortless fashion. The 1160's bass is very tight and "fast." Many other amps, particularly

Class A amps, seem slightly "warmer" and provide more apparent low-end energy, but they do this at the cost of pitch definition. A superb product. (286)



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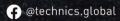








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# Audio Research Corporation 160M

#### \$34,000/pr.

The product of two years of research and development, the Reference 160M

monoblock doesn't sound like any other ARC amplifier JV has heard, and he's heard just about all of them. Gone are the characteristic brightness—the incandescent "top-down" tonal balance—and the soft grainy noise that any ARC fan has grown used to. Gone, as well, is some (not all) of ARC's traditional and seemingly limitless spaciousness and bloom. In their stead are a more neutral (maybe slightly bottom-up) tonal palette, audibly lower noise (resulting in zero grain), more and more focused detail, richer timbre, a fuller power range, and a markedly increased sense of control over every aspect of the presentation. This increase in grip, color, and resolution may be the result of the biasing scheme (the 160M is one of the first ARC amps with auto-bias). Regardless of the trade-offs in ARC's new circuit, in most ways the 160M sounds more realistic than any Audio Research amplifier that has come before it, and when you consider the scope of William Zane Johnson's legacy that is saying a mouthful. (294)

#### MBL Noble N15

#### \$35,600/pr.

Class D amplifiers have come a long way since

JV reviewed several of the first high-end samples way back when. This latest version from MBL's engineering genius Jürgen Reis is not only flat-out powerful (560W/36A into 4 ohms); it is also (unlike first-generation D) relatively load, level, and frequency independent, thanks to Reis' LASA 2.0 technology, which, among other things, uses a massive analog power supply rather than a switching supply. Sweet on top and a shade bottom-up in overall balance, the N15 is not the last word in resolution or treble extension (even in the MBL line), but then it doesn't cost what that last word costs. What it is is unfailingly enjoyable, powerful, and musical, and, given the right source and pairing, fully capable of a realism that raises goosebumps and of a soundfield of outstanding breadth, width, and depth. (287)



#### Gryphon Antileon EVO \$39,000

For JV, this large, beautifully built and finished, KT120-tube-based, 100Wpc stereo amplifier from Japanese man-

ufacturer Zanden is one of the great surprises of this audio season. Why a surprise? First, though scarcely inexpensive, it is considerably less money than Zanden's typical gourmet-audio offerings. Second, though completely tube-powered and tube-rectified, it has none of the image blur, dynamic laxness, ambient grain, and timbral heaviness of typical Class AB KT120-based push-pull tube amplifiers. On the contrary, it is exceedingly fast on transients, extremely hard-hitting, extraordinarily finely detailed, with taut bass that is virtually indistinguishable in grip, definition, and impact from that of much top-tier solid-state, and imaging and staging that are truly wall-to-wall. It is also capable of sounding "real" on any number of well-recorded discs no matter the type of music. (243)

#### CH Precision A1.5

# \$39,500 (\$75,000/pr., monoblock)

The Swiss company CH Precision has come on strong in recent years.



Its latest entrant into the amplifier wars is the solid-state A1.5 amplifier, an upgraded version of its A1 amplifier that can be run in a variety of configurations, included bridged or mono. Indeed, the amplifier can be divvied up to run two main loudspeakers and two subwoofers simultaneously. With a new 1700VA toroidal transformer, the A1.5 boasts plenty of power, enough to drive pretty much any loudspeaker with aplomb. Its excellent tonality, low noise floor, and taut control ensure that it always delivers the musical goods. (305)

#### **Absolare 845 Passion**

#### \$41,250/pr. (Signature, \$53,500)

These gorgeous, leather-clad single-end-ed-triode monoblocks deliver the glories of SET circuits in a cost-no-object implementation—gorgeous timbre, a smooth and relaxed treble, tremendous soundstage depth and dimensionality—but do so with



enough power to drive real-world loudspeakers to satisfying playback levels. Their 52 watts, coupled with genre-defying bass extension and dynamic impact, deliver qualities that fly in the face of conventional wisdom about SETs. But the Absolare's real magic is in the sense of immediacy—that impression of hearing contemporaneous music-making unencumbered by the electro-mechanical contrivance of the playback system. The result is a deep immersion in the musical expression. (234)



#### Esoteric Grandioso M1

#### \$44,000/pr.

The M1 monoblocks are refined tigers. "Refined" because they demonstrate purity, control, and spellbinding clarity. "Tigers" because each amp effortlessly

delivers 300 high-current watts into 8 ohms and 1200 watts into 2 ohms—enough for the most challenging loads. The M1's presentation, like the rest of the Grandioso stack, is more upfront than that of traditional Japanese gear, which tends to be laid-back. (280)

#### Lamm Industries ML2.2

#### \$47,890/pr.

These 18W single-ended triode monoblocks are so magical (with a load-appropriate loudspeaker) that they made RH



question the paradigm of high-powered solid-state amplification. The directness of expression, the palpability of images, and the purity of timbres are simply sensational through the ML2.2. These amplifiers make it sound as though the musicians are speaking through time and space directly to you. It's an uncanny quality that must be experienced to be appreciated. The ML2.2 achieves this level of sonics not through a euphonic or tubey sound, but by conveying the virtues of SET amplification without SET colorations. With the right loudspeaker (a big caveat), the ML2.2s don't sound like tubes, SET, solid-state, or any other technology. Rather, they sound like music. (230)

Every component of this audiophile-worthy high-fidelity stereo sound system is on display in this photo.





#### THE PEARL

\$3499 each

MAXIMUM SOUND LEVEL 118 dB mono, 124 dB stereo

**BANDWIDTH** 14 - 27,000 Hz

**DESIGN** 3 drivers, 3 amps

**POWER** 1600 W RMS / 3200 W peak

**DIMENSIONS / WEIGHT** 12.6" diameter / 40 lbs each

## THE PEARL AKOYA

(pictured) \$1899 each

MAXIMUM SOUND LEVEL 115 dB mono, 121 dB stereo

**BANDWIDTH** 30 – 27,000 Hz

DESIGN

3 drivers, 3 amps

1050 W RMS / 2100 W peak

DIMENSIONS / WEIGHT 8.7" diameter / 18 lbs each

Automatic room correction. Ethernet/WiFi – Bluetooth – SPDIF – Optical – RCA Analog – USB for music on external hard drives

Connect your favorite streaming service via the Cabasse StreamCONTROL app

cabasse.com

#### Constellation Centaur II Stereo/Mono

#### \$49,500/\$99,000 pr.

Very high resolution and voluptuous tone color generally don't go together in hi-fi gear, and when they do—as in Class A triode tube circuits or Class A solid-state ones—they often do so at a price in neutrality. Such amps and preamps seem to have what brilliant engineer Michael Børresen wittily calls a "bottom-up" kind of sound. That is, their sonic "center of gravity" seems to lie in the upper bass and lower midrange. Though the 250Wpc Class AB Constellation Performance Series Centaur stereo amp would probably qualify as a "bottom-up" amp, in that it has a slightly darkish

overall balance, it doesn't trade off as much upper-midrange and treble-range air and bloom as typical Class A amps do. It has gorgeous color and texture on top, coupled with an uncanny ability to resolve very fine details without etching or "spotlighting" them. (223)



#### **Constellation Revelation Taurus**

#### \$50,000/pr.

Part of Constellation's trio of Revelation series solid-state electronics, the Taurus monoblocks make musical magic. Sonic compromises such as accurate-but-analytical, silky-but-smeared, musical-but-veiled simply don't apply. You get it all: lifelike tonal balance, refined resolution, expansive soundstaging, fantastic dynamic range and control—all in a compelling musical whole. The Taurus mono amp puts out 500 watts and sounds more powerful than many similarly rated products. Though housed



in less elaborate case work than its more expensive brethren, the Taurus delivers much of the higher-level Constellation magic at less lofty prices. (294)

# Absolare Hybrid Stereo, Signature Edition

Absolare's Passion SET amplifiers brought the glories of single-ended triode to an amp that could drive real-world loudspeakers. (See Robert Harley's review in Issue 234). Astonishingly, the company has managed to capture much of the magic of their reference-class products in the Hybrid Stereo power amplifier. As its name suggests, the Hybrid combines tubes in the front end with a 275Wpc (4 ohms) solid-state output stage. Yet there's no hint of transistors in the Hybrid's sound; it has astonishing liquidity of timbre, is utterly grain-free, and projects that elusive sense of midrange presence that is the hallmark of the best SETs. The Hybrid

creates a directness of musical expression—of hearing nothing between you and the music—that is unique among solid-state amplifiers, in RH's experience. The gorgeous leather-clad casework adds to the appeal. (forthcoming)





#### Soulution 501

#### \$55,500/pr.

Though these monoblocks from Germany are "limited" to 120W into 8 ohms (240W into 4, 480W into 2), don't let the specs fool you. Thanks to their new switching power supplies, these ultra-high-bandwidth Class AB solid-state amps are capable of delivering better than 75 volts and 45 amps into any load at a damping factor of over 10,000, giving them absolutely killer grip, extension, and clout in the bass—and everywhere else. Add to this a welcome density of color in the midrange and an exceptionally sweet treble, and you get what are the most lifelike solid-state amplifiers JV had heard in his home until the arrival of the Soulution 711 stereo amp. (236)



#### T+A M 40 HV

#### \$59,000/pr.

T+A, a German company whose initials stand for Theory plus Application, isn't engaging in idle theorizing when it comes to its nifty M 40 HV amplifier. This monoblock's sound is never less than sinuous and controlled. It is constructed around two 6SN7 input tubes in Class A with a solid-state output stage that features

MOSFET transistors. The benefits of this hybrid approach are immediately apparent. These amps are never strident or cacophonous. Quite the contrary. As you might well expect with the combination of tubes and MOSFETs, the M 40 HV offers a plush sound that delivers a richly rewarding rendition of everything from jazz to classical music. While they do not have the ultimate power of solid-state bruisers, their lack of grain and grit means that they consistently convey the emotional core of the music. (316)

#### MBL 9008 A

#### \$60,600/pr.

The massive (better than two-feet long and tipping the scales at 200 pounds), high-current, high-bandwidth, high-power (440W into 8 ohms, 840W into 4



ohms, 1000W into 2 ohms), very-low-distortion, Class AB 9008 A monoblock amplifier sits just behind MBL's even more massive and powerful 9011 monoblock in the company's Reference Line. Both amps were designed by Jürgen Reis, which is tantamount to saying that both amps are bullet-proof technical and sonic marvels. Built using the finest parts, the 9008 A is a beast with a velvet voice. Seemingly inexhaustible speed, power, and plumb-the-depths resolution are here mated to a dark, rich, beautiful tonal palette. The result is something very like what you hear with Soulution's finest amps—a gorgeous bottom-up presentation with the solidity of an ebony pillar. (forthcoming)



#### THE PROVEN BENEFITS OF THE 8SWITCH NOW FOR LARGER NETWORKS

# 16SWITCH

"Big step up from my reference switch, in terms of lower noise, more upbeat and dynamic presentation, better defined 3D soundstage and generally a better sense of dynamics and liveliness."

- Chris Baillie, HiFi Pig



English Electric 16Switch is a two-zone, dual power supply, 16-port Gigabit Ethernet (GbE) device

"The 16Switch has a characteristic I find with many Chord products of making the music more engaging, there is little inclination to press pause or skip to the next track as can often be the case when reviewing."

- Jason Kennedy, The EAR





#### Zanden Model 9600 Mk2

#### \$64,350/pr.

For those of you who own speakers that don't require the last word in power, it is difficult to imagine a more appealing amplifier than this drop-dead-gorgeous-looking Class A/AB tube monoblock from the great engineer Kazutoshi Yamada of Zanden Audio Systems. Capable of



60W in Class A (and 100W in Class AB), the flagship Model 9600 Mk2 drives a fairly efficient but somewhat difficult speaker like Raidho's D-5.1 to new levels of resolution, transient speed, timbral accuracy, and overall realism, while maintaining decent (though not world-beating) grip in the Raidho's tough-to-control bass. Powered by twin 845 triodes, the Model 9600 Mk2 is a veritable model of neutrality (as is the case with every Zanden product JV has heard), producing a near-divinely natural tonal balance from top to bottom, without any hint of excess darkness or brightness. (293)



#### D'Agostino Master Audio Systems Momentum M400

\$65,000/pr.

The Momentum amplifiers deliver very high power—1800 watts, to be precise—in a delectably at-

tractive package. The large meter in front, modeled after a Swiss watch, lets you know how much power you're delivering to the loudspeakers, but it's almost impossible to tax these babies. For one thing, each unit contains an 1800VA linear transformer as well as a 300VA power supply. Unless you're running an Apogee Scintilla of yore, we don't imagine you'll be wanting for more in the power department. But these amps don't simply deliver brute force. They offer a luxurious, even sumptuous, presentation that edges toward the tube-amp side without tipping over into it. (279)

#### Audio Research Reference 750SE

#### \$70,000/pr.

Surpassing the performance of ARC's last-generation behemoth, the 610T, the 750SE is the best-sounding amplifier reviewer Don Saltzman has heard. It has an extended but smooth high-end frequency response with excellent control and extension in the bass.

With an immense power supply, the 750SE outputs a true 750 watts through its 4-, 8-, and 16-ohm output taps and has the power to drive any loudspeaker load to satisfying levels without strain. Apparently as a result of its huge power reserves, the 750SE surprises in its capability to deliver uncompressed bandwidth and delicacy at low listening levels. All in all, a groundbreaking design that is hard to beat if you are looking for an effortless presentation that sounds amazingly like the real thing. (290)



#### VTL Siegfried Series II Reference \$75,000/pr.

The VTL Siegfried Series II Reference, a second-generation design from Luke Manley and company, has been thoroughly upgraded to compete in the front rank of amplification, tube or solid-state. In plain English, this translates to an amp that never runs out of gas. On the contrary, it can sail with aplomb through the most demanding, complex, and thunderous musical passages. The revisions to the Siegfried also mean that it boasts considerably more refinement and micro-detail than its prede-



cessor. While the noise floor is not as low as that of a top-flight solid-state design, the Siegfried offers a warm and fulsome sound that only tubes can provide. It's also the case that Siegfried boasts prodigious grip and slam in the bass that rivals, or even eclipses, a number of solid-state competitors. An amplifier worthy of its lofty Wagnerian name. (246)

#### Air Tight 3211 \$80,000/pr.

This beautiful and beautifully made all-tube monoblock, powered by a pair of Chinese 211s in a push-pull configuration, generates 30W of Class A power and 120W of Class AB. If you're thinking that these storied, directly heated triodes make for a



voluptuously colored sound, you couldn't be more wrong. The 3211 is a neutral, transparent, effortlessly powerful amplifier with simply superb bass (none of the usual "for a tube amp" qualifications needed), superb transient response, and superb resolution. Indeed, it is the most neutral, transparent, and detailed 211 amplifier JV has heard. Paired with a first-rate loudspeaker (e.g., the Zellaton Reference MkII or the Magico M3), it is capable of fool-you realism on just about any voice or acoustic instrument. (forthcoming)



#### David Berning 211/845 \$80,000/pr.

In the 211/845, David Berning has created the most ambitious realization yet of his brilliant ZOTL circuit that allows a tube amplifier to operate without an audio output transformer. The

211/845 offers 60W of pure Class A triode tube power (via either 211 or 845 output tubes) with no feedback. The 211/845 conveys the beauty of instrumental timbre and voices with a stunning realism and immediacy. The impression that everything between you and the music has been stripped away is astonishing. In this regard, the 211/845 simply has no peer, tube or solid-state. Surprisingly, the bass is well defined and tuneful, although not the last word in dynamic impact. The highish output impedance and limited current delivery dictate that the 211/845 be matched with a loudspeaker of appropriate sensitivity and impedance. (265, 276)

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-Audiophiliac, Steve Guttenberg

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#### Pass Labs Xs 300

#### \$85,000/pr.

AHC has been using Pass amps as one of his references for years, and he had real doubts whether this new design from Pass could sound all that much better than what he was used to. Well the devil lies in the details, and the Xs 300 monoblocks provide those details in as neutral and accurate a manner as any amplifier he's



heard. Outstanding in all the usual areas for a reference-quality amplifier, but the deep bass and transition from the upper bass and midrange truly enhance the musical experience. So does a level of dynamic life and detail that has to be heard rather than described in words. Capable of driving even the most demanding speakers, it produces 300 watts into 8 ohms and 600 watts in to 4 ohms and has a maximum power output of 60 amps. (243)



#### **Tidal Ferios**

#### \$85,000/pr.

This beautifully built middle amplifier in Tidal's three-product range is brimming with clever design touches delivered with elaborate execution. The parts-quality, attention to the smallest detail, and fit 'n'

finish are as good as it gets. This monoblock delivers 300W into 8 ohms (680W into 4), and sounds like a powerhouse. The bass is robust and well defined, and the midrange has a remarkable sense of transparency and presence. One of the most immediate and least-colored amplifiers RH has heard. (306)

#### **Ypsilon Hyperion**

#### \$93,000/pr.

The Ypsilon Hyperion monoblocks, which outputs a healthy 450 watts, are a hybrid design that features



a tube input stage and a solid-state output stage. The tubes add a dollop of warmth and sinuosity to the affair, while the solid-state output provides grip and transparency. The trademark Ypsilon sound—a lack of an electronic signature—is fully apparent in the amazing purity of the notes. The Hyperion does not have quite the slam in the lower bass of its purely solid-state brethren. But it possesses a pitch definition that is pretty much unrivaled. (283)

#### CH Precision M1.1

#### \$104,000/pr. (\$54,000 for stereo version)

This deluxe, Swiss-made, bridgeable, high-current monoblock amplifier that can also run in two-channel mode seems to have some of the sonic DNA of another Swiss company's, Soulution's, world-class electronics. Like Soulution's 701/711 amplifiers, the M1 is ultra-fast on transients, ultra-high in resolution, ultra-low in noise and coloration, and quite beguilingly beautiful in timbre. When the M1 is configured in its default position (no negative feedback), JV reports that he would be hard put to choose between it



and Soulution's 711 in every regard save for bass and dimensionality, where the Soulution still holds an edge. When it comes to resolution and speed, however, the two fight to a virtual draw. Indeed, with a less dark (i.e., less "bottom up") balance, the CH Precision perhaps edges ahead in these two critical areas. (259)

#### **Audionet Heisenberg**

#### \$105,000/pr.

The massive (145-pound), powerful (530W into 8 ohms, 1050W into 4 ohms, 2100W into 2 ohms), all solid-state Audionet Heisenberg monoblock is a beast. While GW acknowledges the remarkable advancements in solid-state amplification over the past dozen years or so, nothing else in his immediate experience better demonstrates the transistor's ability to accurately and artfully combine delicacy with power, focus with



bloom, resolution with body, detail with texture, and clarity with expressiveness than the Heisenberg (and its companion Stern preamp). (306)

#### Constellation Hercules Stereo II

#### \$110,000

The Hercules II stereo amplifier from Constellation uses the same updated circuitry found in the Hercules II monoblocks.



Quite naturally, it sounds very much like the Hercules IIs, minus the ultimate in power and separation that the monoblocks deliver. Having said this, at 550Wpc into 8 ohms, 750Wpc into 4 ohms, and 1kW into 2 ohms, the Hercules Stereo II isn't likely to leave you wanting for oomph with any loudspeaker load, reasonable or unreasonable. As neutral in balance as any solid-state amp out there, the Constellation, as you would expect given its price, delivers just about everything that an ultra-high-ender is looking for: resolution, color, staging, imaging, transient speed, and dynamic impact that are the equals of any other top-tier solid-state amplifier JV has heard. One of JV's solid-state references. (forthcoming)

#### Boulder 2150

#### \$112,000/pr.

The Boulder 2150 monoblock amplifier is an engineering marvel. It offers a smooth, seductive, and powerful sound that places it in the very highest echelon of solid-state amplification, perhaps superseded only by its big brother in the Boulder 3000 Series. With its 1000 Class A watts on call, this amplifier can pretty much deliver limitless power, but the most remarkable aspect of the 2150 is its control—the softest passage is delineated with what appears to be the utmost timbral fidelity. Cymbal swishes hover in the air for what seems like an eternity. And the ease with which you can follow a bass line when delivered by the 2150 is a distinct pleasure. Does it breach the tubes versus solid-state divide? No. The texture and dimensionality supplied by tubes remain a separate province. But the Boulder builds on the many virtues of solid-state to provide an amazingly realistic reproduction of recorded sound. (249)







# VAC Signature 450 iQ

# \$126,000/pr.

These gorgeous, gorgeously made, ultra-expensive, two-box (separate power supplies), 450W monoblock tube amplifiers equipped with VAC's "iQ" system (designed to keep each amp's complement of 14 KT88s and 6SN7s precisely at ideal bias) represent designer

Kevin Hayes' "all-out" effort to produce audio gear without the usual constraints of expense, time, and difficulty of manufacture. The results are phenomenally lifelike. Here is a suite of glass-bottle electronics that has pretty much the same resolution and transient speed as the world's best transistor gear. No, the Signature 450 cannot do the bottom octave and power range with the grip and wallop of Soulution's 701/711, but this ain't your granddad's tube low end, either. (And JV is probably old enough to be your granddad, so listen up.) And of course its midrange and treble are simply and gorgeously dense in tone color and low-level texture. (263)

# Lamm Industries ML3 Signature

# \$144,690/pr.

This four-chassis, 32Wpc, \$145k SET may strike some of you as the Poster Child for Audiophile Excess, but the Lamm ML3 Signature monoblock amplifier takes the definition of the absolute sound and turns it on



its head. For 30 years, the illusion of live unamplified instruments in space has been what we've been aiming for. Now with this Lamm-attack on the state of the art we can (almost) throw away the word "illusion." The ML3 Signature approaches what we all seek in the reproduction of music—the actual sound of live instruments in space—by reducing or eliminating two of the major sonic colorations that reviewers harp on: electronic haze and midbass overhang. The cost of entry is unquestionably high, but the ML3's performance is even higher. (208)



# Air Tight ATM-2001

# \$155,000/pr.

As impressed as JV was and is by VAC's Signature 450iQ amplifiers, these beautifully designed and engineered flagship monoblocks from the legendary Miura-san of Air Tight are just as sonically impressive. Somewhat darker and fuller in balance (with 6550s) than Kevin Hayes' masterpieces, they are also bloom-

ier and more present than the VACs and at least as high in speed and resolution (which is to say, as high as tube electronics get). Although it could be argued that the ATM-2001s are inherently a bit "tubier" in presentation than the VACs, what has been retained here of the classic tube sound is no more nor less than all that is worthy of retaining: the three-dimensional "action" and illuminated-from-within textural details that bring voices and instruments to fullest life. (269)

# Soulution 701

# \$175,000/pr.

A pair of power amplifiers that cost more than a Mercedes S-Class? Yes, but if you have the dough, there may not be a more musically compelling amplifier on



the planet. The massive 701s break new ground in sheer dynamic verve and vivid immediacy. Although not forward-sounding, the 701s convey a sensational lifelike presence in both timbre and dynamics that puts them in a class by themselves. Instrumental entrances fairly jump from the loudspeakers with hair-raising realism. And then there's the phenomenal bass that must be heard to be believed. These amplifiers have a bottom-of-the-earth solidity and dynamic impact unlike any other amplifier. The Soulution 701s are mega-priced, but they also deliver mega-performance. (249)

# Constellation Hercules II

# \$220,000/pr.

This newer version of the 1000W Hercules monoblock is substantially improved in every way. The original delivered reference-quality performance, but with a somewhat polite bottom end. The II's bass is now spectacular, with plenty of heft, weight, and dynamic impact. Not surprisingly, the qualities for which Constellation is known—exceedingly high resolution, transparency, treble delicacy—are even more apparent in the new Hercules. Despite its massive brute-force power, the Hercules II actually has an extremely refined, sophisticated, and filigreed midrange and treble. The casework and

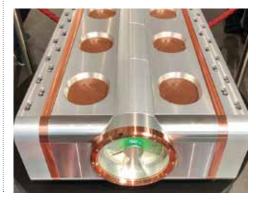
visual impact are as impressive as the sound. This is truly a worldclass reference.



# D'Agostino Master Audio Systems Relentless

# \$295,000/pr.

The Relentless is Dan D'Agostino's statement amp, no two ways about it. Look under the hood and you can see that no expense has been spared. The Relentless is also anti-globalist—no global feedback is employed. The two sides of each amp perfectly mirror each other for true balanced operation—no bridging of amps here. These (1500W into 8-ohm, rising to 6000W into 2 ohms) beasts are born to run. Compared to the more stentorian amps out there, the Relentless tends to pad the initial transient slightly, so you're not going to get as hard a hit on trumpet or piano as you might with other superb solid-state amplifiers. And the Relentless doesn't have the holographic feel of a top-drawer tube amplifier. At the same time, other amps won't provide you with as luxurious and, in many ways, as realistic a sound as you get with the Relentless. (301)



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PS Audio Sprout100

Yamaha AS801

# NAD D 3020 V2

### \$449

Truly a design for our times, the D 3020 is improbably small and portable—and loaded. The 30Wpc D 3020 offers 24-bit/96kHz-resolution USB input as well as aptX Bluetooth streaming. For all its humble size and appearance it's pure NAD. Firmly midrange-centric, it never overreaches in the sense of growing shrill in one direction or tubby in another. Yes, its lighter overall balance is due to some bottom-octave attenuation, but the D 3020 retains an essential presence, a midrange integrity, that sculpts the body of a performance and makes it live in the listening space. (239)

# **NAD C 328**

# \$599

NAD calls its new integrated amplifier a "Hybrid Digital DAC Amplifier," a moniker that hints at its digital prowess. The C 328 can handle a wide range of digital sources, and indeed, features a topology that keeps signals in the digital domain until the switching output stage. Although the amp is rated at 50Wpc, Paul Seydor found that the C 328 wasn't lacking for power in real-world situations. The C328 also acquits itself excellently in nuance and resolution. A tremendous bargain and a worthy successor to NAD's legendary 3020 integrated amplifier. (291)

# PS Audio Sprout100

# \$799

Though the original Sprout's compact, retro-modern form factor remains the same, the new Sprout100 offers a number of upgrades and improvements, including a redesigned phonostage and headphone amp, a new DAC (up to DSD128 and 384/24PCM), a tiny indicator LED, and a remote control. Oh, and twice the power: 100Wpc. The Sprout100 has the ability to coax even more open spaciousness, lively musicality, detail, and low-end extension from the small loudspeakers (especially with the "bass boost" option on). Expect big sound and even more bang for the buck. (289)

# Yamaha R-N803

# \$849

The Yamaha R-N803 is two-channel network receiver with built-in Wi-Fi, Bluetooth, a phonostage, multiple line inputs, AM/FM tuning, and many, many other features. It outputs 100Wpc into 8 ohms and 160Wpc into 4 ohms, which means it's fully capable of driving a wide range of loudspeakers. It sounds good, almost very good, but its real strength lies in the sheer amount of stuff it handles. It's nearly an entire system in a single box (just add speakers), and is perfect for people getting started in the hi-fi world. (286)

# Marantz PM7000N

# \$999

The Marantz PM7000N integrated stereo amplifier is a good-sounding product that can shrink audiophile sprawl down to something more manageable without sacrificing what matters most. It's an all-in-one solution that comes equipped with built-in DAC, network streaming, Apple AirPlay, multiple line inputs, multiple digital inputs, and a phono section. Despite having a foot firmly in every camp, its presentation is impactful and gracious—an overall solid performer packed with value. Digital is easy to set up, and while the phono section isn't perfect, it reveals plenty of detail and has a nice, engaging sound. (305)

# NuPrime IDA-8

### \$1250

Sonically and functionally, there's plenty to love about the IDA-8. Essentially, it's a sleek-looking, small-footprint hybrid Class A/ Class D integrated amplifier/DAC that combines Class A warmth and resolution with Class D speed, power, and efficiency. Its DAC supports USB 384kHz/32-bit and DSD256, and is also capable of decoding DoP (DSD over PCM) via coaxial and optical inputs. The IDA-8 delivers substance with plenty of gusto—and does so from an astonishingly quiet background. A great-sounding, stone-cold good deal. (263)

# **QUAD Vena II**

# \$1295 (\$1395 with optional case)



The QUAD Vena II is small and gray with a matte finish, though the optional case adds a very nice gloss. The amp is rated 45Wpc into 8 ohms, and includes a phono section, two analog inputs, a preamp-out jack, and a plethora of digital inputs. The Vena II strikes the perfect balance between classic analog inputs and modern digital capabilities. The Vena II is surprisingly engaging with a big, bold, somewhat warm sound, regardless of whether you're in the digital or the analog domain. (302)

# Cambridge CXA-81

# \$1299

The latest version of Cambridge's CX Series integrated amplifier is the best yet, featuring higher parts-quality and better sound than the CXA61. The 80Wpc unit offers four unbalanced inputs and one balanced input, as well as a wide range of digital ports, including Bluetooth (aptX HD), that feed the ESS Sabre DAC. The CXA81 can handle digital files up to 384/32 and up to DSD256. Sound quality is good for this price, with fine resolution of detail and wide dynamics. A hint of excessive brightness suggests that the CXA81 is best partnered with speakers that are not themselves bright. The integral DAC is good, but can be bettered by mating the CXA81 with Cambridge's \$1099 CXN-2 network streamer. (311)





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# INTEGRATED AMPLIFIERS/RECEIVERS

# Rogue Audio Sphinx V3

# \$1495 (\$1595 with remote control)

Rogue products have, like their moniker, usually gone their own way in design, price, and value.



The Sphinx integrated amplifier may be the most roguish of the lot. Tubes? 100Wpc (200W into 4 ohms)? U.S. design and manufacture? For \$1495? If that's not enough, this is the first Class D amplifier (actually a hybrid with a pair of 12AU7 tubes in the preamp section) that offers world-class sonics. Includes a very fine discrete headphone amp and a user adjustable mm/mc phono section that is worth the asking-price all by itself. (236)



# NAD M<sub>10</sub> V<sub>2</sub>

### \$2749

Don't let its diminutive chassis fool you; NAD's M10 packs a huge amount of technology and performance into a half-width component. The M10 is a wireless, amplified, multi-room streaming-music system. Just connect speakers and a source (which

can be a smartphone), and you've got a complete hi-fi with 100Wpc, MQA decoding, and Dirac Live DSP room correction. NAD's BluOS app allows you to control any BluOS or Roon-enabled device to create a multi-room music experience that is simple, intuitive, and easy to operate. Attractive, luxurious, simple to set up and use, small, ridiculously well featured, the M10 is wonderfully enjoyable to listen to when connected to the right speakers for your ears and budget. (M10 reviewed in 298; V2 forthcoming)

# Marantz PM-KI Ruby

# \$3999

With its companion SA-KI SACD/CD player, the PM-KI constitutes the late Ken Ishiwata's valedictory work, representing four decades of electronics that place musical beauty and naturalness over laboratory accuracy. Ecumenical



when it comes to tubes versus transistors, the PM-KI exhibits some of the warmth, richness, and dimensionality traditionally associated with tubes together with the precision, definition, transient attack, bottom-end extension, and impact for which solid-state is prized, while its 100Wpc should satisfy all but head-bangers. Its onboard mm/mc phonostage is so good it obviates the need for a separate one. Ishiwata considered the Ruby components his finest work. (302)

# Rogers High Fidelity 65V-1

Classic tube power meets modern technology in aerospace engineer Roger Gibboni's designs—there's a free iOS app enabling control of volume, source switching, and operating mode (Ultralinear or triode). Although intended as an entry-level offering, this integrated is definitely not a watered-down version of one of Rogers'



big push-pull amps. In fact, it's something totally different—a single-ended design using one EL34 power pentode per channel (upon request the amp can be shipped with a KT88 beam power tube). Reviewer DO says you really would be hard-pressed to find a more cogent and emotion-packed midrange. (283)

# Naim Uniti Nova

# \$5990

The Naim Uniti Nova is an 80Wpc integrated



amplifier/digital player for the 21st century. Input options include one single-ended analog input, one five-pin DIN input, two USB inputs (one on the front and one on the back), one SD card slot, one HDMI input, one BNC digital input, two coaxial SPDIF digital inputs, two optical TosLink inputs, wireless streaming via Chromecast, AirPlay, Bluetooth (aptX HD), or Wi-Fi (2.4 or 5GHz), and UPnP streaming via its Ethernet connection. The Uniti is also a Roon endpoint. If you need a modern single-box solution that can play from dad's NAS drive or sis' smartphone (and be controlled by any smartphone in the house), the Naim Uniti Nova can make the transition from hair-shirt audiophilia to silk-shirt convenience as painless, musically expansive, and audiophile-approved as possible. (284)

# Hegel H390

# \$6000

The Norwegian firm's



integrated amplifiers have always been overachievers, but the new H360 is, by a wide margin, Hegel's most impressive effort yet. With 250Wpc into 8 ohms (420Wpc into 4 ohms) and 50 percent greater current capacity than the H300 it replaces, the H360 is a powerhouse. But that power comes with Hegel's signature virtues of a gorgeous rendering of timbre, a completely relaxed and natural presentation devoid of electronic artifacts, and a spatial dimensionality that competes with expensive separates. To top it off, the integral DAC is outstanding—fully up to the quality of the amplifier. (260)

# Gold Note IS-1000 Deluxe

# \$6299 (\$5299 line version)

A true multi-discipline, 125Wpc Class AB, DAC-equipped, network-audio performer that summoned a neutral personality throughout the midrange with intimations of extra bloom and body in the mid and upper bass. Orchestral music possessed a firm, of-a-piece signature that was detailed and layered yet stable and immersive. Treble octaves were smooth and non-fatiguing. Transient behavior was unforced and natural, rather than overly etched and prickly. Italy's Gold Note fulfills the expectations of enthusiasts across the generations



by having produced a modern, musically engaging, and highly configurable amp. (300)



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# INTEGRATED AMPLIFIERS/RECEIVERS



# **Aesthetix Mimas**

\$7500 (phono stage option \$1250) (DAC option \$1250) The Mimas is, in a way, an old musical soul. Hip and striking with its clean, precision machining and uncluttered design,

the 150Wpc dual-mono, hybrid amp could be just another high-performance entrant in the über-integrated sweeps. However, Mimas, the first integrated from Aesthetix, is something much more than that. Capable of expressing the full palette of tonal and textural color it embodies many of the classic sonic virtues from the golden era of tubes, but with the ease and control and extension that are hallmarks of today's finest solid-state. As it fashions these essentials into a harmonious whole, its character hints of classic midrange warmth and airy treble sweetness with bass response as nimble as it is formidable. The very definition of what we all seek from an integrated amplifier. (294, 313)



# Bel Canto E1X

\$8000

According to Bel Canto's designer John Stronczer, "the E1X Integrated shares its architectural approach with the Bel Canto Black system design." The EX1 utilizes a multi-circuit-board layout. Multiple processors reside on the AMiP board and control the USB, Ethernet, AES, SPDIF, TosLink, and analog input functions, while a dedicated processor contains the MQA decode and rendering function, as well as the MQA-derived filters. The E1X is, in every respect, Bel Canto's best value. It's a high-performance piece of kit that delivers sonics on a par with a combination of reference components at double the cost. If you have limited space to devote to electronics yet desire superlative sound and audio technology, the E1X can do that with style. (308)

# **Technics SU-R1000**

# \$9499

This integrated amp bristles with innovative technologies and features. Digital input signals stay in the digital domain, driving the switching output stage directly and greatly reducing signal-path circuitry. The cutting-edge design includes a battery-driven clock, and a phonostage that combines analog and digital circuits to realize cartridge frequency-response correction and crosstalk cancellation. Rated at 150Wpc into 8 ohms and 300Wpc into 4, the SU-R1000 can drive even demanding loads without a sense of strain. The SU-R1000 has excellent bass, with exceptional definition and dynamic realism. Dynamic detail is exceptional from very low to high levels, and so is midrange and upper bass detail. The outstanding phonostage lives up to the sound quality of the rest of the unit. Colorations are very low, dictated more by the source components and speakers than the amplifier. Beautifully built, it is a modern update of classic Technics aesthetics. (317)

# Devialet ExpertPro 220 \$9990



The amplifier offers exceptional neutrality arising from an extreme indifference to loading and extremely low distortion. (This is a hybrid amp: It uses a digital circuit to rough out the current demands but the sound you actually hear is that of a Class A output stage that trims the signal to perfection.) A great amplifier if ever was, what makes the ExpertPro 220 unique is Devialet's Speaker Active Matching (SAM) system. You download onto an SD card, and then into the SAM unit, an electronic model of your speaker (Devialet has these models for a vast number of transducers—so your speaker is most likely covered). This model is then used in real-time to correct the speaker's lower frequencies to match the input. SAM lowers distortion, makes timing correct, and extends response down—a long way. (The speaker is monitored so that overload never happens, but as much bass extension is generated as the speaker is capable of.) A revolution in audio amplification for speakers. (298)

# **BAT VK80i**

### \$9995

BAT's first all-tube integrated is a stunning piece of industrial art that



delivers over 55Wpc of pure triode power. The design combines the 6SN7 dual triode with the unique 6C33C-B power triode, originally designed for avionics applications and famously used as a regulator tube in the radio communications system of the MIG-25 fighter jet. The focus is on simplicity of operation and reliability, hence the automatic-bias circuitry. It sounds far more powerful than a comparable KT88-based amp and shifts gears without changing its sonic character. There is no perceptible textural grain or brightness even when it is driven hard. It is above all else a superb demonstration of triode power that offers a happy escape from the garden-variety pushpull beam-power or pentode amp. (319)

# Jeff Rowland Design Group Continuum S2



\$10,500 (\$10,900 w/phono;

\$11,600 w/HP phono; \$11,000 w/DAC)

What do you get when you combine Rowland's Capri S2 preamp circuit and control features with the company's own twin power-conversion modules and a switch-mode power supply? You get a beefy 400Wpc, fully balanced integrated amp that sonically runs the table with swift transients and wide-open bandwidth. The S2 won't paint the sound with romantic brush-strokes—its neutral-to-cool temperament is more of a finely honed tool designed for extracting details. Lavishly bedecked in the brand's traditional aircraft-grade-aluminum enclosure, it features an optional easy-install phono or DAC module to further expand input source possibilities. (253)



# MBL Cadenza C51 \$11,200

With its soft, understated lines,

svelte controls and connectivity, and jewelry-like finish, it's easy to misjudge the depth, complexity, and sonic resolve of the C51—a 180Wpc, modified Class D tour de force. It has the touch of the classicist in terms of the import it places on the finest inner details, and its resolution of acoustic space is almost eerie in its specificity. Its top-end is top-notch—airily extended with none of the early era Class D veiling that often constricted and cloaked these octaves. Designer Jürgen Reis' hybrid topology known as LASA is unerringly open, airy, and sweet where appropriate, yet also highly charged and aggressive when so called upon. The main issue that listening to the C51 provoked was the way it integrated individual criteria—frequency, imaging, dynamics, transients and wove them together into a seamless tapestry of reproduced sound. A triumph in its category. (243)



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# INTEGRATED AMPLIFIERS/RECEIVERS

# Balanced Audio Technology VK-3500

# \$11,995

The VK-3500 is a hybrid design that marries a tube preamp stage with a solid-state power amplifier section. (It can also be had with an optional phonostage.) Effortless in sonic delivery, the VK- 3500 offers a remarkably complete package combining loads of user flexibility with a clean, neutral, detailed, balanced, and coherent voice that beautifully conveys music's myriad aural, intellectual, and emotional elements. Not for those seeking the seductive golden warmth offered by some tube designs, this BAT is definitely more Audio Research than Conrad Johnson. (280)

# Pass Labs INT-250

### \$12,000

A force to reckon with, the muscular INT-250 with 250Wpc (and 500Wpc into 4) embodies effortless dynamics, ultra-wide bandwidth, superb low-end control and grip, and effortless, unpretentious highs. Optimized for greater flexibility with grunt-worthy speaker



loads of 86dB efficiency or less, its soothing and seductive sonics are an ideal companion for analog LP playback—this Pass integrated just makes you want to spin vinyl endlessly. Remarkable, too, is the amp's lush midrange that pushes a loudspeaker to the very edges of its performance envelope. (263)



# Thrax Enyo

### \$12,500

This all-tube, modular integrated amp from Bulgaria offers 50Wpc, and can be had with a superb optional phono section (\$1175) and Roon-certified streaming DAC (\$3500). The tube com-

plement comprises an ECC88 (input), 6N6P (driver), and GU50 (output) tubes. The Enyo is built with expensive parts and lavish casework. A 4.3" display shows the major operating parameters for navigating the layered menu system. The Enyo provides a clean, neutral sound through the line inputs with external sources, as well as through the optional phonostage and DAC. The Enyo's sound is neutral rather than classic warm and tubey. You don't hear "new" aspects of the music in the upper midrange and the highs; you just hear what is on the recording. The Thrax Enyo in a luxury product, but its quality lives up to its price. (319)

# T+A PA 2500 R

# \$12,750

The highboy integrated amp of the vaunted R Series from Germany's T+A electroakustik, the 140Wpc PA



2500 is twice as tall as, and more powerful and equipped with more connectivity than, its nearest sibling. It includes a dual-mono, fully balanced, high-voltage amplifier in an AB configuration, with a hefty Class A bias for the first 20–25 watts. Sonically, it is firmly in the camp of balance and control. Musical images are rooted in position and vocals are models of stability. Its most identifiable character trait is its wideband spectral response and dynamic extroversion. The PA 2500 delivers big, high-intensity wattage that never seems to waver in delivery or extension regardless of load. Even its phonostage is a real contender rather than a second-string bench-warmer. Wunderbar! (275)

# Esoteric F-03A

### \$14,000

If you lust for Esoteric's ultra-expensive Grandioso system but don't have the requisite dough or space, the



F-03A is the solution. This integrated is designed and built to the highest standards, but on a smaller scale. Though its power output of 30Wpc (60Wpc into 4 ohms) is modest, those 30W are Class A, and some of the sweetest you'll ever hear. When driving a speaker of appropriate sensitivity, the F-03A delivers the harmonic richness, transient fidelity, transparency, and musical resolution of much more expensive separates. Gorgeous casework, feel of the controls, and operation. (289)



# Constellation Inspiration 1.0

\$16,500

The third entry in Constel-

lation's Inspiration Series, the 100Wpc 1.0 integrated represents the firm's most affordable effort yet. Visually streamlined, it is still unmistakably Constellation with its elegant matte-finished aluminum casework and distinctive cross-drilled side panels to promote thermal efficiency. The sonic nature of the Integrated 1.0 is that of a control amp in the most exacting and incisive sense of the words. It latches onto an audio signal with a death grip, not letting go until it reveals and resolves every sliver and shred of the program material. Its general tonal signature is ever-so-slightly shaded to the cooler side of the spectrum. Treble performance is equally exacting but open, with hints of air and sweetness and not a trace of grain. The Inspiration 1.0 is nothing short of a new high for the bottom of the Constellation line. (283)

# MBL Noble N51

# \$17,600

The N51 packs a powerful punch with 380Wpc and key tech features designed



by Jürgen Reis. While not inexpensive, the German maker's Noble electronics offer a solid middle ground that's an ideal match for MBL's superb omnidirectional speakers but should also be considered (and recommended) for use with other transducers. The N51 was a standout driving the Magnepan 30.7 planar-magnetics. Not only did this pairing more than satisfy the power-hungry Maggies, the N51 also succeeded in enabling them to sing with greater effortlessness and musicality, with more robust, substantial, and three-dimensional sound—sonic results with a handful of other amps with higher ratings and/or prices didn't quite match. (287)



"The HPA4 is exceptionally good at presenting a layered, dynamic, yet relaxed sound." - Tom Martin

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# INTEGRATED AMPLIFIERS/RECEIVERS



# Soulution 330

# \$23,000 (\$27,000 with phono)

With its 330 integrated amplifier, Soulution has succeeded in finding ways to offer a large number of its

signature qualities—sonically, aesthetically, and functionally—at a fraction of the cost of its flagship 7 series and mid-tier 5-series components. As befits a classic integrated, the Soulution 330 comes standard with preamplifier and power amplifier sections (a phono board and/or DAC section are also available as separate options at additional cost). The 330 outputs 120Wpc into 8 ohms (240Wpc into 4 ohms, etc.). That might not sound like a lot, but watts can be deceiving; the 330's quality power goes a long way in both its drive capabilities across speaker loads and its superb sonics. A few of the outstanding attributes (among many) associated with Soulution components are an exceedingly low noise floor, plenty of air, and a noticeable continuity or sense of smoothness—an evenhanded ease when reproducing music. This integrated gets out of the way of the music in the right ways, but delivers the right stuff. (294)



# Ypsilon Phaethon \$25,000

Ypsilon has brilliantly grafted the electronic DNA from its flagship Aelius monoblocks and PST100mk2 preamp into its

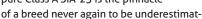
sole integrated amp. The result is a  $110 \mathrm{Wpc}$  hybrid unit with only three active

gain stages. Few other amps capture the earthy sense of "being there" like the Phaethon does with its ultra-wide color palette, velvety textural contrasts, micro-detailing, and fully saturated harmonics—not to mention its vise-like grip in the bass octaves. Construction is Herculean—seventy heroic pounds of satin-finished aluminum and heat-sinking that would take the demigod himself to lug up Mt. Olympus. Includes a remote control, plus four inputs. (278)

# Vitus Audio SIA-025

# \$26,400

Exemplifying the best of separates in a single, trim, and seriously-hyper-massaged chassis, the 25Wpc pure Class A SIA-25 is the pinnacle



ed. The sonic results speak for themselves—a liquid presence, a three-dimensional stage, and the finest gradations of micro-information and dynamic contrasts. If all other elements in the system chain are strong, you'll hear less system and more space—each component seems to settle and calm and in so doing achieves a wider expression, greater intimacy, and a richer vibrancy at even the lowest levels. With watts more precious than gold, calling the SIA-025 a bargain is a stretch, but after a few minutes of listening you may begin to reconsider. (218)

# **Absolare Integrated**

# \$26,500-\$34,500

This hybrid integrated combines a tube front end with a 150Wpc solid-state output stage. What makes the Integrated special is just how much it sounds like Absolare's spectacular all-tube Passion preamplifier and Passion 845 SET



power amplifier. Specifically, the Integrated's midrange possesses, to a remarkable degree, the tonal lushness, rich textures, and visceral immediacy of its SET antecedent. Yet it does this while delivering the rock-solid bass and open treble extension of its transistor output. Extremely minimal in features and operation. Price range reflects options in internal parts quality. The unique and sumptuous leather-clad casework gives the Integrated a very different vibe than gear in metal boxes. (280)



# Goldmund Telos 590

# \$29,750

If someone had told JV that an amp, preamplifier, and DAC in a single box

could come as close to the sound of a Soulution 711 stereo amp coupled to a Soulution 725 preamp and 760 DAC as the Goldmund Telos 590 Nextgen II does, he would've laughed in his face. You won't hear him laughing now. This 215W integrated with built-in 32-bit/382kHz DAC (no phonostage, alas, and no MQA, either) is a marvelous piece of audio gear that, for JV, sets a new eye- and ear-opening standard for integrated amplifiers. Yeah, its ergonomics are a bit old-fashioned, and yeah, it only has a single output (making the use of a powered subwoofer unnecessarily difficult), and yeah, it costs \$30k, but sonically it's worth every penny. (316)

# **Constellation Argo**

# \$33,000

The Argo integrated amplifier's mission is to deliver the classic Constellation sound at a lower price point. To accomplish this, Constellation's designers merged two existing Performance Series (one down from the ultimate Reference Series) components: the Virgo II preamplifier and half of a Centaur II power amp. The splicing was a solid success, as evidenced by the Argo's seductive-yet-propulsive, forgiving-yet-detailed sound. Timbres are beautifully complex from top to bottom. The amp has less upper-end extension, dynamic verve, and bass authority than AT's reference; yet it more than compensates with its gorgeous tone and an easygoing presentation that, nonetheless, passes along important musical details. These are the classic Constellation qualities the Argo was born to capture, and at \$33,000 it is now, by far, the least expensive way to gain access to them. Note that the Argo will soon support a phonostage and a DAC card, adding to its already impressive versatility and value. (253)





# NuPrime Omnia A300SE (\$1650)



MSRP \$1650

- Amplifier capable of  $2 \times 150W @ 8$  ohms and  $2 \times 200W @ 4$  ohms power
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# INTEGRATED AMPLIFIERS/RECEIVERS



# CH Precision I1

# \$38,000-\$50,000 depending on configuration

Though dubbed an integrated amplifier, CH Precision's I1 barely resembles typical members of that ilk. For one thing, the I1 is far more expensive than most of its competition; it starts at \$38,000 (nicely equipped) and, like a Porsche, climbs rapidly from there as you add modules. Yet modularity allows you to configure the I1 to handle virtually any combination of digital and analog sources, streaming audio, even a moving-coil cartridge. The I1's lofty price belies its unbelievable value. Within its chassis lies the essences of CH's superb separates: the C1 DAC/controller (\$34,500), the P1 phonostage (\$31,000), and the A1 stereo power amp (\$37,000). That's over a hundred grand of donor components, each of which is among the best in the world, in a 50 grand unit that is every bit as sonically and musically revelatory as its far more expensive stablemates. Reviewer Alan Taffel had a hard time thinking of another \$50k electronics choice—integrated or separate—with the same pedigree, versatility, footprint, value proposition, and sonics. (289)

# Audionet Humboldt

# \$58,750

The Humboldt grew out a project to pack as much performance as possible into a single chassis. It shares much of the technology of its more costly brethren (Audionet's Stern and Heisenberg separates), offers a full feature set, and can output a whopping 320Wpc into 8 ohms. The Humboldt delivers a bottomless noise floor that lets the music breath and supreme dynamic prowess, conveying music with passion, soul, and energy. The sense of rhythm and pace are extraordinary, and the extremely low noise floor confers a sense of see-through clarity and transparency that renders tone colors more vivid and alive. Extreme bottom-end grip is not quite as convincing as state-of-the-art separates. (316)





# VAC Statement 450i iO

# \$150,000

There is no mistaking the pristine, precise sound of the 225Wpc all-tube VAC Statement 450i iQ integrated amp (with built-in linestage and phonostage) for the sound of your father's tube integrated. Here is no hint of conventional "tube" sound—no fat, thick, stodgy bottom end, no inflated images, no overly ripe tone or texture, no loss of upper register detail, no rolled-off treble. In fact, when it comes to attributes like resolution, focus, timbral accuracy, dynamic expression, and extension, the Statement 450i iQ integrated executes on a level comparable with the very best solid-state. Yet it offers all the magical qualities of valves—those densely colored soundscapes, dripping with texture,

and populated with accurately sized, shaped,

and located images, and

a visceral, three-dimensional stage. (305)







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JEFF DORGAY, TONE AUDIO #105













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# Schiit Magnius

### \$199

The reason that audiophiles pass over modestly priced components for higher-priced options is often the "grayness" or perceived lack of resolution

and detail of budget gear. There simply isn't enough there there, for an experienced audiophile. That was not an issue with the Schiit Magnius preamplifier and headphone amplifier. Power-supply tweakers be warned—the Magnius requires its own AC-to-AC, 1.5-to-2 amp, 14-to-16-volt power supply, instead of a more usual AC-to-DC type. The Magnius' soundstage characteristics, including depth, image precision, width, and dimensionality, were exactly what reviewer Steven Stone expected from reference-level component, regardless of price. If you can live with just two inputs, the Magnius may well be all you really need. (311)

# Audio by Van Alstine Transcendence 10RB

### \$899

The Transcendence 10 RB vacuum-tube preamp sample that reviewer Drew Kalbach received had the Vision phono



circuit included, which sounded fantastic. He was instantly impressed by the depth of the soundstage and the general dynamics. Indeed, whenever he took the AVA Transcendence 10RB out of the system, he ended up putting it right back in. Like its companion piece, the Vision SET amp, the Transcendence 10RB is the best bargain DK has reviewed. (290)



# Schiit Audio Freya+

The Freya+ is a tube-based preamplifier with three output modes: passive, differential solid-state buffering for balanced outputs, and differential tube

for that sweet, syrupy tube sound. The tube stage is surprisingly quiet and adds just enough of that heavy magic. There are five inputs, two balanced and three unbalanced, along with one balanced output and two unbalanced outputs. The Freya+ generally sounded best in the tube mode, though the solid-state buffer was no slouch. Mids were particularly focused and sweet, while bass remained tight and impactful. Overall a flexible and solid preamp choice. (309)

# NuPrime AMG PRA

# \$1795

The AMG PRA is a compact box with two knobs on the front and an LED indicator for channel and volume. The left knob controls the loudness-compensation feature, and the right knob switches between standby mode, line inputs, and adjusts volume. On the back, the STA includes one set of balanced inputs and three unbalanced RCAs along with a balanced and unbalanced RCA out. The STA's deep and quiet noise floor allows music to absolutely shine with

crispness and dynamism. Its flexibility would work well in multiple setups, and its near-transparent sound could slot in with most equipment. Sounds particularly good with the NuPrime AMG STA. (319)



# Atma-Sphere UV-1

# \$1900 (\$2300 w/mm phono section; \$2800 w/mc phono section)

Intended as a cost-effective entry-level component, in its basic form as a line preamp, the UV-1 uses a single 6SN7 dual triode per channel. The line section delivers on the promise of the 6SN7 with a big tone, authoritative midrange, and excellent spatial detail. Sonically, the UV-1 occupies the middle ground between vintage and modern tube sound. It abandons absolute neutrality in favor of a bold and assertive midrange replete with wonderful tonal color saturation. Deserves a serious listen when shopping around at the under-\$3k price point. (258)

# Benchmark Media Systems LA4 Line Amplifier

# \$2499 (\$2999 with optional headphone amp)

The LA4, a fully analog linestage, comes closer to measured and measurable perfection than any audio product in any category that Paul Seydor has ever reviewed, owned, or heard. It has lower distortion and noise (close to Johnson level, i.e., the residual thermal noise inherent in all electronic circuits at equilibrium) than any other electronic component in his experience, its transparency and tonal neutrality unsurpassed and probably unequalled as well. Its dynamic range is likewise at the highest state of the art. An amazing 256step volume control maintains 0.5dB/step resolution and flawless channel-to-channel tracking at any setting throughout its range. A remote control is available for \$100. With no discernible sonic characteristics that he can identity, it is PS's new reference standard for a linestage. (311)

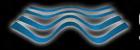
# Rogue Audio RP-5/RP-7

# \$3495/\$4995

Combining classic vacuum-tube heritage with micro-processor control is Rogue's recipe for one satisfying and affordable preamp. The RP-5 brings its magic to bear in the areas of color saturation and tonal liquidity, presenting a natural acoustic clarity that rings truthful. It establishes an authentic sense of dimension and spaciousness specific to each image. The treble is nicely extended, quick, detailed, and abundant with harmonic information. Bass performance is authoritative, controlled, and yet also somewhat warm and bloomy. The RP-5 is a prime example of what the high end is all about-music reproduced accurately and beautifully. The RP-7 is the balanced version of the RP-5, and like a family member that attended finishing school it takes the musical voice of the RP-5 and burnishes it in areas that were already very, very good. Perhaps most persuasively, there is also a new solidity and control in the bass and lower midrange, which more confidently anchors all kinds of music from a rock band to an orchestra. A significant upgrade over the excellent RP-5. (260, 283)

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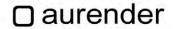














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# **Anthem STR**

### \$3999

The STR preamplifier delivers on two high-end electronics parameters at which Anthem has always excelled, the user interface and DSP room correction. Navigation of the STR's layers of operational menus, displayed on a readable-from-across-the room, thin-film-resistor display, is intuitive and readily mastered. The latest (Genesis) version of ARC gives the user an almost limitless capacity to address quirks of real-life listening environments, the software employing two dozen IIR filters per channel and operating at 192kHz. A premium AKM DAC chip performs both 32-bit/384kHz PCM as well as 2.8 and 5.6MHz DSD processing (though be advised that the latter is via DoP rather than "native" DSD transmission, if this matters to you.) There's a phonostage with four selectable equalization curves other than the standard RIAA, and the preamp has an analog bypass option. (298)

# PrimaLuna EVO 400

### \$4699

The EVO 400 represents an evolutionary upgrade from the Dialogue Premium preamp. The most significant new feature is balanced connectivity implemented using mu-metal-shielded quadfilar line transformers. Sonically, the EVO delivers tonal weight without sacrificing speed and detail. Transients are negotiated with admirable speed and control. And there's not much to complain about at the frequency extremes. The treble range is sweet and detailed without gratuitous brightness, while the bass range features excellent pitch definition and timing. Its feel for microdynamic nuances and ability to scale the macrodynamic range from soft to loud captures much of the music's dramatic content. The EVO 400 is not only PrimaLuna's best line preamp offering ever, but also holds its own against ultrahigh-end competition. Miraculously, it manages to combine the virtues of modern tube sound with the tonal heft and timbral realism of vintage tube preamps. (305)

# Cambridge Edge NQ

### \$5000

For its 50th anniversary, Cambridge Audio didn't go the conservative route with the Edge NQ network preamplifier. An analog preamplifier with built-in network player and DAC, the NQ is the place to connect all the connected aspects of your musical life. The triumph here is in the simplicity and reliability of the hardware and software integration. Switching among YouTube-sourced music videos on the iPad, Chromecasted Qobuz streamed music, or computer playback of music files from a NAS is embarrassingly easy and immediate to execute. When he reviewed it together with the Edge W power amplifier, AM found the best pure audio performance to be had through the NQ's analog preamplifier or DAC inputs. The sonic result (given all the complexity inside the beautiful box) is unexpectedly hear-through, making exploration of the ever-expanding world of musical possibilities better. (301)



# Audible Illusions L3B

### \$5295

A purist design based on a single, Russian 6H23n-EB triode per channel, the L3A distills the best attributes of modern tube sound: precise transients, a detailed presentation, and natural yet non-euphonic textures. It is its insistence on the sonic truth that defines it as a true reference line preamp. The L3A's ability to retrieve the music's rhythmic drive and drama makes it one of the most sonically persuasive line preamps on the market. Audible

Illusions' best effort to date and one of the best line preamps DO has auditioned over the years at any price: audible illusions on a grand scale! (259)



# Pass Labs XP-12

### \$5800

The XP-12 line-level preamp forgoes the dual-chassis extravagance of its uptown siblings, but sonically you wouldn't know it. Musical naturalness abounds, with stunning orchestral layering and complex three-dimensional soundspaces. There's a level of harmonic bloom across the entire spectrum—most notably the infusion of resonance and decay cues around strings and winds—that results in a musically juicier quality of such ripeness it might make you reach for a napkin. Anchored by the precision of Wayne Colburn's single-stage electronic volume control (from the company's flagship Xs line), the XP-12 produces an almost eerie sense of music bursting forth in the here and now, rather than being extracted from a recording. (286)



# **Bryston BP26**

# \$5860 includes MPS-2 power supply (optional DAC, \$750; phono mm, \$750; phono mc, \$1500)

This two-chassis, fully featured preamp has lots of connectors (RCA and XLR) and traditional control knobs and switches rather than an interactive, menu-driven control screen. It even has a decent headphone section. Only tone controls were skipped. Build-quality and sonics are quite high at its price level. The BP26 sounded tonally neutral with fairly high resolution of fine detail and notable upper-frequency openness, all leading to a pristine presentation without edginess. The BP26 seemed to bring forth the central thrust of whatever music was playing with fatigue-free musical verve. Bass extension and dynamic control were also strong points as were soundstage width and height. The BP26 offers versatility and musical enjoyment at a competitive price. (269)



# **Brinkmann Audio Taurus**



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- Bob Ludwig, Gateway Mastering Studios



# Aesthetix Calypso/Janus Signature

# \$6000 (Calypso Signature, \$8500)/Janus, \$8000 (Janus Signature, \$11,500)

The stalwart Calypso linestage and new Janus Signature (which includes a Rhea Signature phonostage) share numerous qualities: speed and detail; highs without a glint of shrillness; a low noise floor; precise rhythms; dynamics that are only a skosh less lively than reference-caliber; and a laid-back perspective. The quiet background and smooth treble add up to long hours of glorious, fatigue-free listening. As for differences, the normal Calypso/Janus soundstage is big, but not huge, while the Signature soundstage is fully realized. The Signature also delivers a richer portfolio of instrumental timbres, more air, longer decays, and better-defined bass. However, these are accompanied by



an upper-bass bump that adds a warmth and thickness that affects both timing and timbre. The choice between the Signature and non-Signature model will come down to personal preference, though, at \$6000, the original Calypso remains a steal. (196)

# McIntosh Labs C53

# \$8000

A standing rebuke to the folly of minimalism and the snobbishness of those who insist that only separates can scale the peaks of audio artistry, McIntosh's C53 preamplifier replaces a whole shelf-full of components, rolling a state-of-the-art linestage, phonostage, DAC, equalizer, and headphone amp into a single elegant, albeit large box, with no compromises in performance. With 16 inputs and three outputs, the C53's connectivity is unrivaled, its DAC supporting every popular digital format (including all DSD and PCM hi-res formats, excepting MQA), plus an ARC HDMI input that correctly decodes and mixes down movie and TV sources for those who demand first-class AV reproduction through their two-channel setups. Its two phonostages, one each for mm and mc, with

loading and capacitance options that will match almost every pickup out there, are good enough to obviate the need for separates. In addition to all this, the C53 offers battleship construction and looks that just radiate class, taste, and timeless style. One of PS's reference preamplifiers. (315)



# Pass Labs XP-22

# \$9500

The XP-22 preamplifier is a two-box affair, with a dual-mono power supply connected to the control module by a supplied 9-pin JAE umbilical cable. Designed by Nelson Pass's long-time engineering partner, Wayne Colburn, the XP-22 features an improved volume control—Colburn's specialty—that is quieter and more accurate than previous versions. There are five sets of stereo inputs (two XLR and three RCA), including one with unity



gain intended for a home-theater application. Three pairs of outputs are provided, one balanced and two unbalanced. The XP-22 is a supremely quiet component and, as a result, it reveals musically important detail very well. The preamp imposes no apparent colorations of its own on source material and dynamics are unrestrained. (316)



# VTL TL-5.5 Series II Signature

# \$9500 (\$13,000 with phono)

Initially introduced in 1997, the VTL TL-5.5 Series II Signature preamp has been seriously improved using technologies found in the company's flagship TL-7.5 Reference Series III (\$20,000) and TL-6.5 Signature Series II (\$18,000). Another difference between VTL's top three models is that the 6.5 and 7.5 are hybrid designs employing FET buffers, whereas the 5.5 shares the same basic circuit topologies but uses tube buffers, making the 5.5 Signature II VTL's top all-tube model. The 5.5 II's features, accessed via front panel or remote, allow users to select from eight inputs, engage an external processor, choose mono mode, and control phase as well as balance and, of course, volume. Like VTL's ST-150 power amp, the 5.5 II is an exceptionally musical preamp, with wonderful resolution, excellent dynamic shading, and the warmth, air, and texture of the best tube designs, but without the overtly colored sound that plagues some models. (251)

# Classé Delta PRE \$9999

Classé's newest stereo preamplifier features a sophisticated yet intuitive touchscreen GUI that facilitates navigation of the component's vast functional capabilities. The Delta PRE has its own excellent DAC (an AKM 4497 chipset that supports native DSD) and a phonostage that allows for the choice of cartridge type and impedance loading in seconds. The analog-domain stepped attenuator has 400 steps: You can definitely be confident of finding the right volume setting. The preamp doesn't have automated DSP room correction, but instead offers advanced parametric EO capabilities. Even without such wizardry, however, Classé's Delta PRE is as transparent and uncolored as the best. (312)



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MURANO ALTO 3-way design \$6598 / pair



MURANO 3-way design \$3998 / pair



JAVA MC40 3-way design \$2798 / pair (pictured)



MINORCA MC40 3-way design \$1199 / pair



JERSEY MC170 3-way design \$1398 / pair



ANTIGUA MC170 3-way design \$799 / pair

# Yamaha C-5000

### \$9999

Yamaha put some heart and soul into its return to the audio deep end. While the NS-5000 speakers and GT-5000 turntable are likely to attract most of the 5000 Series attention, the C-5000 preamplifier is an impressive component deserving of its own spotlight. This fully balanced, solid-state preamp incorporates a wonderful, fully discrete phonostage with a massive 80dB of potential gain. There's a feeling of a signal unimpeded. The C-5000 doesn't require a sonic counterbalance elsewhere in the system. It also happens to be one of the most rewarding components to just put your hands on and use. The controls have a rare delicate precision which encourages you to skip using the remote (and get some likely needed exercise in the process). An interesting and unique option in high-end

preamplifiers, especially if a turntable is an important part of your system. (308)



# Constellation Inspiration Preamp 1.0

### \$12,500

This trickle-down product from Constellation's \$90k Altair preamplifier brings you much of the Constellation sound for a fraction of the price. Using the same schematic (and even the same audio circuit-board layout) as the Altair, the Inspiration 1.0 delivers the signature Constellation sound of high resolution, an airy and spacious soundstage, and a complete absence of hardness and glare. The savings were realized with a less expensive implementation of the Altair's circuit, along with less extravagant casework. (249)

# Zanden Audio Model 3100

# \$13,550

This gorgeously built, relatively demure linestage is a virtual sonic clone of its companion piece—Zanden's extraordinary 8120 stereo amplifier. With its all-tube output stage, all-tube rectification, a fixed-bias, current-regulated power supply, and transformer-coupled outputs, you might expect the 3100 to sound classically "tube-y." But, as is the case with Zanden's power amplifier, you would be entirely wrong. JV has not heard an all-tube linestage that outdoes this one in speed, resolution, soundstaging, and grip. Sounding like a top-tier solid-state linestage (only with added lifelike bloom, air, and dimensionality), this little Zanden is a genuine "find"—a tube preamp with almost all of the virtues and none of the shortfalls of solid-state. A reference-quality unit. (243)

# Brinkmann Audio Marconi MKII

### \$13,990

When contrasted with much more expensive equipment from CH Precision, Boulder, and Ypsilon, the Brinkmann preamplifier doesn't quite have their magnanimity of sound, grip, and airiness. CH Precision produces a cavernous black space that seems unrivaled. Boulder has a degree of control that is unique to it. And Ypsilon lights up the soundstage. But Brinkmann comes remarkably close and has its own set of

virtues. It has a dynamism and smooth continuity that are immensely beguiling. It represents formidable German engineering allied to a profound sense of musicality that will be difficult for most listeners to resist. (301)



# MBL N11

# \$14,600

The N11 is a solid-state preamplifier that doesn't sound particularly solid-state. Oh, it has the grip of transistors in the bottom octaves, but it also has some of the three-dimensional roundness and a good deal of the timbral richness of tubes in the midrange, and not a jot of solid-state brightness or edginess in the treble. Highly detailed, a little dark, a little soft and sweet on top but always



enjoyable, powerful, and musical, and, given the right source and pairing, fully capable of a realism that raises goosebumps and a soundfield of head-slapping breadth, width, and depth, the N11 (like its Noble Line companion, the N15 monoblock amplifier) is a component JV can confidently recommend to every kind of listener. (287)

# Pass Labs XP-30

# \$16,500

Here you have two monaural line preamps sharing a single power-supply chassis—a stacked deck that crushes the competition when it comes to traditional solid-state virtues such as transient attack, bass control, and detail resolution. But the real magic is in bridging the great divide between the sound of tubes and transistors. Image focus and soundstage dimensionality are tube-like, as is the big tone and dynamic integrity. Microdynamic nuances and rhythmic drive are also convincingly reproduced. Orchestral crescendos expand from loud to very loud with absolutely no compression. Consistently faithful to the recording, the XP-30 refuses to dish out the sort of euphonic camouflage some solid-state amps do. A supremely musical line preamp. (223)





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# FM Acoustics FM 155-MKIIR

# \$17,750

Like its companion pieces, the FM 108-MKII monoblocks and the FM 122-MKII phonostage, this compact (almost tiny), beautifully made, Class A linestage preamplifier is one of FM's most affordable products. As with the amp and phonostage, it too preserves with extraordinary clarity and fidelity the native sound, the number, and the receptivity patterns of the mikes being used in recording sessions, along with a clear sense of the depth, width, height, and ambient signature of the venue in which those mikes have been set up. On well-recorded material, it is also extremely revealing of the distinctive ways in which instruments are being played or lyrics sung. And yet this transparency to setup and source isn't being bought at the price of an analytical presentation. On the contrary, there is a musical

sweetness to the way the FM 155 reveals instrumental and recording essentials that makes for consistently enjoyable listening. (286)



# **VAC Signature IIa**

# \$18,000 (\$23,000 with phono)

Kevin Hayes has outdone himself with the new Signature IIa preamp—the first new iteration of VAC's flagship transformer-coupled pre in over a decade. Completely balanced, hand-wired, with no coupling capacitors or negative feedback, the linestage-only version sports five pairs of standard line inputs. The full-function model adds a tubed phonostage with mm/mc inputs, a completely separate power transformer with dedicated filter circuitry, and variable-impedance load-switching. The sound is gorgeous. A



statement piece, it plays music with extraordinary finesse and drive, accurate timbres, spaciousness in the soundstage, swift attacks and aching decays, and an even spectral balance with superb dynamic and timbral contrasts. (224)

# VTL TL-6.5 Series II Signature

# \$18,000

The TL6.5 Series II Signature preamplifier is a significantly updated version of VTL's TL6.5 Signature preamplifier. The VTL design team's goal for the Series II was to incorporate most of the advanced technology found in the company's flagship preamplifier, the TL7.5 Series III Reference—a hybrid, two-chassis (separate power supply) model—in a single chassis. The application of this advanced technology has certainly improved sonics (and ergonomics). One of the things WG kept marveling at listening to the latest incarnation of VTL gear was the extraordinary sense of balance and overall harmony, of the

interplay between musicians. Musically natural and measurably superior, the TL-6.5 Series II maximizes all that tubes do well, while minimizing their shortcomings. (305)



# T+A P3100HV

### \$19,900

The relaxed—nay, effortless—control of the balanced P3110 HV preamplifier



allows it to deliver a burnished sound and a capacious soundstage. A marvel of Teutonic engineering, it contains a parametric equalizer, a phono section, and separate analog and digital power supplies. The velvety sound of this preamplifier is it most distinguishing characteristic, permitting it to render the sonority of acoustic instruments with great fidelity. For all its ease of presentation, the P3100 HV does not stint on detail or transparency. Its combination of bliss and luxury, command and control, suggest that it is one of the finest preamplifiers extant. (316)

# **Boulder Amplifiers 1110**

# \$22,000

Boulder's 1110 is loaded with sophisticated features including five programmable balanced inputs, extensive set-up options, IP addressability, and automatic software updates. All this is made possible by a powerful on-board computer. The advanced volume control is derived from Boulder's more expensive 3000 series. The 1110's sonics are traditional Boulder, with a powerful bottom end, exceptional resolution of low-level information, and particularly outstanding dynamic performance, which reveals the musical life in a recording. The soundstage is wide and lifelike at no penalty in energy. It all adds up to perhaps the best value in Boulder's long history. Note that the 1110 has balanced inputs and outputs only. (287)



# **Constellation Pictor**

# \$22,000

All three models in Constellation's Revelation series (Pictor preamp, Andromeda phonostage, and Taurus monoblock power amp) offer high technical capability in service to music playback. Sonic compromises such as accurate-but-analytical, silky-but-smeared, musical-but-veiled simply don't apply. You get it all: lifelike tonal balance, refined resolution, expansive soundstaging, fantastic dynamic range and control—in a compelling musical whole. While the Pictor doesn't have the body and liquidity of tubes, it still delivers remarkable levels of continuousness, image heft, and tonal density.

The usual underlying electronic noise and transient dynamic instability are so well mitigated that the listener simply perceives more musical content with greater accuracy and ease. (294)



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# **PREAMPLIFIERS**

# **Audionet Pre G2**

# \$23,350

With the Pre G2's rated bandpass of 0Hz–2MHz (–3dB) and a signal-to-noise



ratio greater than 120dB, Audionet claims to offer best-ofclass measurements. Add in thoughtful features like 18dB of user-adjustable gain per input for level-matching and the ability to label each source, and the Pre G2 is as functionally versatile as it is sonically accomplished. Characterized by exceptional transparency and resolution, it is one of the most organic and natural-sounding solid-state linestages around. It plays music from any source with impeccable linearity, sophisticated finesse, and spot-on tonality, delivering exquisitely and accurately scaled dynamics at any volume level. (279)



# Zanden 3000mk2

### \$26,000

The all-glass-powered Zanden Classic trio (2000mk2 linestage, 1200mk3 phonostage,

and 9600mk2 monoblock power amplifier) will get you where you want to go—i.e., the sound of the real thing—without forcing you to pay a heavy toll in listenability on less-than-SuperDisc recordings. This consistent listenability is one of the Zanden Classic suite's sonic virtues. It is not a typical overlay of tubeyness; indeed, for tube gear the Zanden 2000mk2 sounds remarkably precise. It is focused, grain-free, and a little Class A "dark" in timbre, without any bottom-end plumminess. Indeed, the bass of the Zanden 2000mk2 (particularly in combination with its sister phonostage and brother power amp) is truly superb—richly (and accurately) colored, three-dimensional, bloomy, clear-as-solid-state in pitch, near transistor-quick and powerful on transients, and immensely detailed in performance cues. A TAS Product of the Year-worthy product. (293)

# MBL 6010D

# \$26,500

It's been around for decades, but like everything else that Jürgen Reis has designed, the 6010D was and is so far



"ahead of the curve"—technically and sonically—that all but a few other supremely gifted audio engineers are still playing catch-up. Not only does the thing measure flawlessly; its sound (with the typical MBL rich, beautiful, bottom-up tonal palette) is also impeccable. Fast on transients without brightness or edginess, immensely detailed without verging on the analytical, finely focused without exacting a price in three-dimensionality, very deep-reaching and defined in the bass without incurring the typical solid-state losses of air, volume, and bloom, it is an extremely enjoyable, well-balanced, and natural-sounding preamplifier, whose only genuine competition costs many tens of thousands of dollars more. For the money, the 6010D is hard to beat. One of JV's references. (forthcoming)

# **Absolare Passion**

# \$27,500 (\$31,000, Signature)

This ultra-minimalist single-ended triode preamplifier is about as tweaky as a preamplifier gets, with an extremely simple signal path, just four unbalanced inputs, no remote control, and



two unmarked front-panel knobs (volume and input selection). The circuit is built using cost-no-object parts, and housed in a massive aluminum chassis clad in leather. Sonically the Passion is very much like the companion Passion 845 power amplifiers, with a complete lack of grain, etch, solid-state glare overlying timbres. The treble is just a little on the forgiving side, a quality that complements the tendency toward brightness of some dome tweeters. Soundstaging is phenomenal—wide, deep, transparent, and three-dimensional. The Passion is immensely communicative of musical expression. (234)

# 10 2 0 m 57 0 m

# Soulution 525

# \$28,000

Until the arrival of the Soulution 700 Series preamp, JV had never heard a better solid-state

preamplifier that this little gem from Switzerland, now in an improved 525 version. (Only 2012's POY-winner, the Constellation Virgo, competed on a near-equal footing.) Not only does the 525 have all the things you would expect from world-class solid-state—jaw-dropping transient speed, outstanding low-level resolution, tremendous grip in the bass, vanishingly low noise and coloration, but like its companion pieces, the 501 monoblock amplifiers, it joins these qualities with a gorgeous, newfound density of tone color that makes every kind of music sound not just lively and detailed but also beautiful and that much more realistic. When you add one of the best built-in phonostages JV has heard in a single-box solid-state unit (the 525 is that rarity in latter-day components—a full-function preamplifier), you get a genuine reference-level product and TAS' 2013 Solid-State Preamplifier of the Year. (236)

# Lamm Industries L2.1 Reference

# \$28,990

This two-chassis affair, with an outboard power supply, is a hybrid design but not in the usual sense. The power supply is all tube, while the audio circuit is solid-state. The musical message is presented without any tonal accents. Its inherent sound is texturally pure, with only a slight suggestion of second-order harmonics. The music's full complement of drama is on display as the L2.1 always seems to squeeze a bit more energy from each recording. The remarkably low noise floor enables exemplary resolution of track fadeouts and reverberant decay. In general, the spatial impression is quite convincing with excellent image focus and depth perspective, though the extent of soundstage layering is dependent on the associated power



amp. The L2.1 Reference belongs to a select club of line preamps that are capable of serving up an edgeless organic whole. It is a true Reference in the best sense of the word. (278)

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# PrimaLuna EVO 400 Preamplifier

Dual-mono design utilizing two toroidal transformers and two 5AR4 rectifier tubes to drop noise and maximize imaging and texture

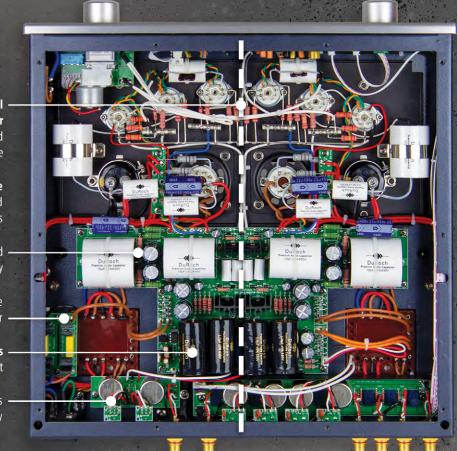
Point-to-point wiring with Swiss-made silver-plated OFC wire improves sound beyond what's possible with PCBs

**Takman resistors from Japan** renowned for their low noise, linearity, and musicality

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# VTL TL-7.5 Series III Reference

# \$30,000

The TL-7.5 linestage preamplifier has always been a solid performer, but its new incarnation is far and away the best VTL

has produced. The revised TL-7.5 Series III reflects both a wealth of technological changes and a serious effort to refine its sound. The preamp is a two-chassis unit; the first is called a control chassis and contains noisy circuitry; the other is the audio chassis, which uses a set of 12AU7 tubes for gain. The new TL-7.5 simply sounds as though a barrier to the sound has been removed. Most impressive of all is its ability to play the loudest and most complex passages without a hint of compression. The sound simply seems to swell and soar with no sense of strain. (222)

# CH Precision L1

\$34,500 (\$51,500 w/X1 power supply; \$92,000 dual-mono configuration with two X1 power supplies) Like its companion piece, the



CH Precision M1 monoblock amplifier, this exceptional, dual-monaural, ultra-low-noise, ultra-high-bandwidth, fully balanced line-level preamplifier is a contender for "Best in Solid-State." Designed by the Swiss team of Florian Cossy and Thierry Heeb, the L1 is a model of timbral beauty, high transient speed, high (actually, highest) detail, precision (though not razor-cut) imaging, and wall-to-wall soundstaging. Whether it's the lowering of resonance via CH's custom mechanical damping or the expanded bandwidth and superior speed of the L1's high-speed Class A circuitry, this preamp (like the Soulution 725) has none of the odd-order-harmonic edginess that drives audiophiles to drink (and to tubes). It is one very smooth, sophisticated customer, and yet it doesn't overly smooth sonics, turning them dull, gray, or antiseptic. On the contrary, timbre is rich and dynamics eye-popping. (259)



# Pass Labs Xs

### \$38,000

An all-out challenge to the state of the art and every other preamp available. Pass Labs' Wayne Colburn and Nelson Pass have truly outdone themselves

in producing this massive two-unit preamp. It does everything right in every aspect of sound quality, and is so revealing of musical and soundstage detail, that you virtually have to listen to realize how good it actually is. Reviewer AHC could not find any flaws even in comparison with other top preamps, and its extraordinarily low noise floor and natural, detailed deep bass have few, if any rivals. Male and female voice were excellent, and open and natural. Complex organ passages were exceptionally clean, and so were complex orchestral dynamics, opera, recordings of large jazz bands. Good form follows functional styling, excellent features, and good ergonomics. AHC's current reference preamp. (243)



# Constellation Virgo III

# \$39,000

It may seem odd to call a \$39k preamplifier "trickle-down," but that's exactly what the Virgo

III is. The Virgo III is very similar in design and construction to Constellation's \$90,000 Altair II preamplifier. Having lived with every level of Constellation electronics, from Inspiration to Reference, RH can report that the Virgo comes close to the Altair's performance at a lower, though still lofty, price. The Virgo has a wonderful warmth through the midrange that is reminiscent of SET designs, coupled with perhaps the best treble reproduction of any solid-state preamp save the Altair. The upper-midrange through the top treble is extremely defined, resolved, open, and spacious. Moreover, it delivers these qualities without sounding etched or fatiguing—and for a fraction of the Reference Series' price. (234)

# Dan D'Agostino Master Audio Systems Momentum HD

# \$40,000

So visually attractive you might buy it as a piece of sculpture, the D'Agostino Momentum preamp's real merit is its extraordinary sound, which seemingly combines the sweetness of the best tube preamps and the detail and accuracy of the best solid-state designs, making it one of the few preamplifiers that can reproduce all the warmth and romance of the best recordings. If the recording is good enough, you hear a remarkably natural, articulated, and three-dimensional soundstage, which seems to expand in width and depth without stretching the instruments or voices



within it. The Momentum has all the features, remote-control capabilities, and input options needed in a top preamp—even truly functional tone controls! (239)

# **Tidal Prisma**

# \$40,000

The solid-state Prisma preamplifier is a minimalist design taken to an extreme of execution. The innovative circuits are realized with no-compromise build-quality, particularly the elaborate, discrete-resistor stepped attenuator. The minimalist theme extends to its black polished-acrylic front panel, which includes just a volume control and a source selector—no balance control, no on/off switch (it's part of the source selector), and no display. Inputs and outputs are balanced only, including the phono input. As great as the Prisma is as a linestage, its phono section (moving-coil only, with only two gain settings) is spectacular. The Prisma's unique topology reduces by nearly half the circuitry of a conventional phonostage/linestage. The result is clarity and transparency coupled with a lush timbral rendering devoid of electronic artifacts. (306)



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# Esoteric Grandioso C1X

# \$46,000

Recently updated to the C1X, this sumptuous preamp's weighty control knobs are bathed in a soft blue glow that brightens when you touch them, and the speed at which you turn the



volume control affects the rate of volume change. It's almost enough to make you forego the beautifully-honed remote. Sonically, music pours from the C1 with uncommon smoothness and effortlessness. Dynamic emphases really pop. In keeping with the Grandioso stack's theme of purity, the C1X's sound is free of any specter of the electronic. (280)

# **Audionet Stern**

# \$48,950

At 19.88" deep, the Stern is more feature rich than its predecessor (the PRE G2), starting with a 7" wide by 4½" tall high-resolution display centered on the upper half of its front face. Sonically, its purity, transparency, tone color, and especially texture are exquisite. Like its companion Heisenberg amp, the Stern simply breathes life into the audio spectrum, reproducing musicians with a remarkable sense of realism. In the midrange and lower treble, it almost seems to delight in articulating enunciation or breathing artifacts and serving up any other forms of vocalization with



which it is challenged. Its ability to create a genuine sense of the body, bloom, and texture of instruments is matched only by the realism with which it reproduces transient detail and timbre. (306)

# Accuphase C-3900

# \$50,000

Accuphase's recently updated flagship preamplifier can serve as the heart of any system. Never bright and fatiguing, neither is it soft and dull. The presentation tends to stay close to the sonic groove that provides long-term listening pleasure, with enough resolution, warmth, and soul to allow full exploration of the music being presented. Having multiple inputs and configuration options, the C-3850 should be at home in most systems, while performing to a high level of satisfaction. (272)



# Soulution 725

# \$60,000 (\$65,000 w/phono)

If you want to know what an LP, reel-to-reel tape, or digital file is capable of in the way of detail, power, color, and pure excitement, JV doesn't think there is another single-unit solid-state preamplifier (the 725 is a full-function preamp with a superb, optional built-in phonostage) that can outdo the sonics of this Swiss master-piece from the boys in Dulliken. Exceptionally high in resolution, gorgeously dark and rich in tone color (with genuinely tube-like three-dimensional imaging), unexceeded (in transistor units) in soundstage width and depth, and rivaled in transient speed only by certain Constellation and CH Precision products, this (Swiss) cheese stands alone when it comes to the bottom octaves. Nothing else out there that JV has auditioned has this same lifelike weight, energy,



Boulder's 2110 preamplifier is a techno-

and density of color and texture from about 500Hz down. The difference isn't small, and it isn't hard to hear (or feel). Like the Soulution amps, the 725 is a veritable sonic thrill ride. One of JV's solid-state references. (249)

# Boulder 2110

# \$65,000

logical tour de force. It comprises four modules, two for the power supply and two for the linestage, that help to ensure amazing image stability, subterranean bass, and gossamer-like highs. Timbres have tremendous weight and heft, coupled with a delicious pellucidity that sets it apart from other preamps. Its fully balanced operation banishes any hint of hum. Nothing extraneous ever seems to intrude upon the music as the 2110 delivers transient attacks with unerring accuracy and effortlessness. The 2110 may lack the final degree of fluidity conferred by tubes, but its low noise floor, mellifluous tonality, and stupendous control mean that it resides at the peak of solid-state designs. (249)



# VAC Statement Line Stage \$80,000

A lot of tube-electronics manufacturers make outlandish claims about their linestages' immunity to noise, hum, and resonance—the bugbears of valve elec-

tronics. The difference here is that VAC's Statement Line Stage really is dead quiet. Whether it's the heroic efforts that VAC's designer Kevin Hayes has gone to in the construction of the Statement's twin (one for electronics, one for power supply) chassis—machined at VAC from high-grade, non-ferrous aluminum and processed through a series of plating steps to provide superior RF rejection across a wide range of radio frequencies—or the way the circuits are laid out in distinct isolated sections to prevent unwanted interactions, the VAC Statement Line Stage has the quietest "backgrounds" JV has yet heard in a tube unit. As a direct result, timbre, resolution, dimensionality, transient response, imaging, and soundstaging are electrifyingly and gorgeously lifelike. JV has yet to hear a richer, more beautiful, more detailed, or more exciting tube preamp—and, unlike many competitors, the Statement's got great grip in the bass and full extension in the treble, too. (263)

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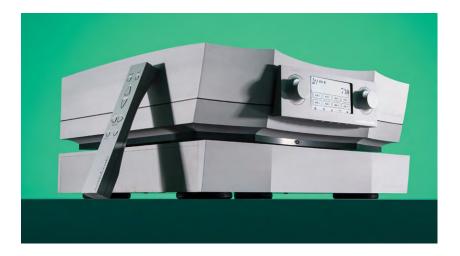
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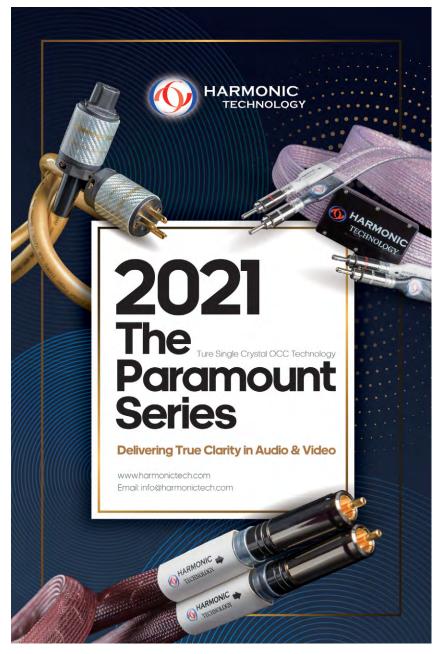
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# Constellation Altair II

# \$90,000

The Altair II is nothing short of an all-out assault on the state of the art in preamplifier design. Its two-chassis design separates the power supply from the audio circuits. The performance can be taken up another level with the addition of the DC Filter, a power-supply-sized box that further purifies the DC feeding the audio circuits. The design is unprecedented in many respects, including extraordinary measures to isolate the audio circuits from vibration and noise. The gain stages are suspended on a floating "raft" within a sub-chamber of the massive clamshell chassis, machined from two solid aluminum blocks. The Altair II sets new standards in transparency, resolution, absence of grain, and sheer realism, in RH's experience. Although highly resolving, it is anything but etched or clinical. Rather, it comes as close to a colorless window on the music as RH has experienced. This newer version has a front-panel touchscreen and a pair of knobs. Surprisingly, it also has even better sound than the original. RH's longterm reference. (260)

# Boulder 3010

# \$135,000

With its wealth of controls, the two-box solid-state 3010 looks like it belongs in a NORAD control center. Boulder does nothing by half-measures: a new dual-phase 993SD gain stage and separate power supplies for each channel ensure that it is both dead quiet and can supply crushing fortissimos with ease. Perhaps the most impressive aspect of the Boulder is that it comes very close to the proverbial straight-wire with gain that so many audiophiles lust after. Turn the volume dial up and the soundstage simply expands without the slightest sense of compression. It would be hard to think of a more linear preamplifier than the Boulder. Those seeking tube-like bliss should look elsewhere. But for anyone enamored of a refined presentation, amazing transient detail, and seemingly limitless power, this is it. (306)



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MoFi Electronics StudioPhono







Tritschler Precision Audio TPAD 1000

# Schiit Audio Mani

### \$129

Sporting the same compact design that Schiit's famous for and offering a surprising amount of flexibility, the Mani is one of the most cost-effective phono preamps on the market. It has four gain settings and two loading options via dip switches on the bottom, and works equally well with both moving-magnet and moving-coil cartridges, though sonically it may favor the mm group. The Mani did a fantastic job of presenting soundstage depth while keeping the noise floor to a minimum. It handled even complex music with grace and toe-tapping fun. This is the perfect phonostage for anyone interested in fantastic sound, reasonable cost, and the ability to use multiple cartridge types. (285)

# MoFi Electronics StudioPhono

### \$349

Renowned recording and remastering experts Mobile Fidelity Sound Lab have taken the plunge into manufacturing analog hardware: two turntables and two companion phonostages, including the \$349 StudioPhono. Design guru Tim de Paravicini lent a hand with the internal circuitry; features offer adjustable gain (40-66dB) and loading (75-47k ohms) for mm and mc cartridges, a mono setting option, and a subsonic filter. Clean and compact, the phonostage complements the MoFi 'tables sonically and visually. It has an ease of use and smooth sound with the UltraDeck 'table—and its small, square "power-on" light inspired by a mastering tape-deck button. (284)

# Audio by Van Alstine Vision Q

# \$499

This little marvel's compact size and low cost are made possible by the use of operational amplifiers. Frank Van Alstine's vision was to select the best-sounding modern ICs, and he eventually settled on the highly regarded Burr-Brown OPA627 op-amps. The circuit features a flexible mc-cartridge loading scheme. Expect plenty of low-level detail, a strong bass range, and superior dynamic contrasts. Transient speed and control can only be described as excellent. Tonal colors are somewhat muted through the upper midrange, suggesting that the Vision should ideally be matched with a romantic-sounding tube preamp. The recently updated "Q" version stands for "quiet" thanks to its improved signal-to-noise ratio. (260)

# Tritschler Precision Audio TPAD 1000

# \$649

In 1985 Erno Borbely published a circuit for a half-passive/half-active RIAA equalization circuit, which inspired Joe Tritschler to design a tube version of it using a single 6DJ8/6922 per channel. While Tritschler's phonostage is fairly neutral in character, its imaging is very tube-like with excellent soundstage width and palpable image outlines. The presentation is well integrated from top to bottom. Its key performance aspect is extracting plenty of passion from vinyl, as evidenced by its ability to scale the range from soft to loud without any increased distortion. Voltage gain is only 34dB at 1kHz, so an associated linestage with decent gain will be required. In many respects, the TPAD 1000 isn't far behind much more expensive phonostages, and it generally comes across as a solid Class B performer. What more could you ask for at this price point? (280)

# Vincent PHO 500

For anyone trying to assemble a high-performance phono system on a reasonable budget (under \$5k), the PHO-500 could be the ideal choice, since it delivers a high-quality, low-noise signal that can easily be mated with a wide variety of high-performance front ends. You also get the added benefit of a



device that allows you to record your most treasured LPs at 96/24 resolution. With its external outboard power supply, the Vincent PHO 500 ranks as the quietest phono preamplifier SS has reviewed regardless of price. (313)

# Channel Islands Audio PEQ-1 MKII

The PEQ-1 MKII may be small, but its robust, dual-mono, symmetric circuits are populated with first-rate components, and it offers versatile mm and mc loading options. From the deepest bass up through the midbass it delivers authentic weight, power, and impact. Its midrange is brimming with detail and texture, though ever so slightly recessed. And its treble is extended, transparent, and highly resolved, with a huge dollop of air and shimmer. Offering solid, stable, and accurate imaging, and very dimensional staging and layering, the CIA is disarmingly natural-sounding overall, making it a clear standout performer in its class. Adding the optional AC-15 MKII upgrade power supply (\$299) brings shocking improvements, subjectively nearly doubling performance. The significantly lower noise floor, enhanced resolution, detail, and transparency make this "option" a no-brainer at purchase, or as the logical addon after. (283)





## NCF Nano Crystal<sup>2</sup> Formula



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Incorporated into Furutech NCF products, Nano Crystal<sup>2</sup> Formula --- NCF features a special crystalline material that has two 'active' properties. First, it generates negative ions that eliminate static. Second, it converts thermal energy into far infrared. Furutech combines this remarkable material with nano-sized ceramic particles and carbon powder for their additional 'piezoelectric effect' damping properties. The resulting Nano Crystal<sup>2</sup> Formula is the ultimate electrical and mechanical damping material. Created by Furutech, it is found exclusively in Furutech products.



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"...you won't be able to remain a tweak cynic when you hear this!" Srajan Ebaen 6moons.com



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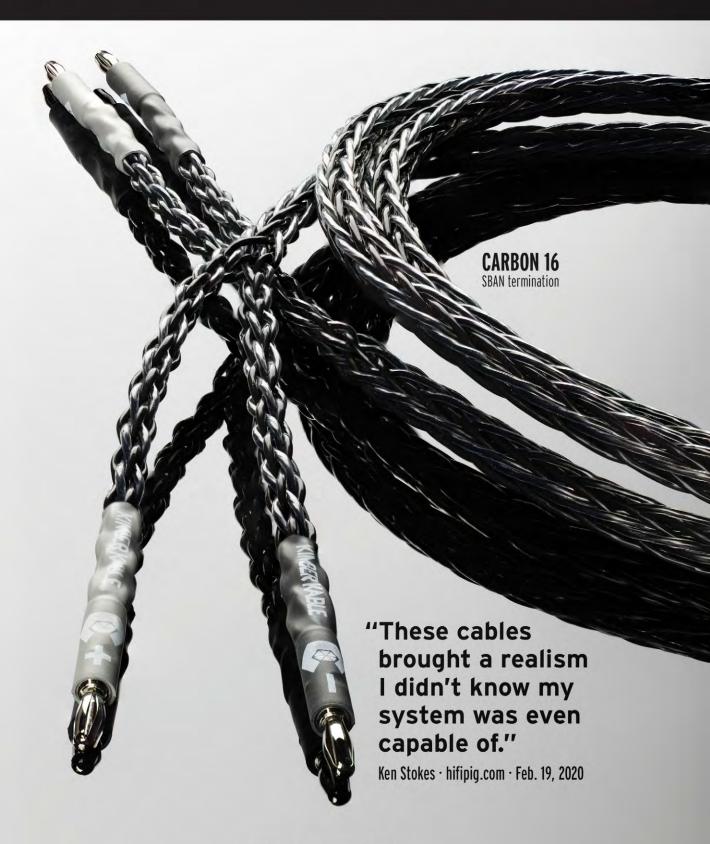
The Furutech NCF Booster-Brace-Single has been designed to support power connectors at wall sockets and on power distributors while boosting sound performance with Furutech's NCF material.













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## HIGH-END AUDIO BUYER'S GUIDE **2022**



## iFi iPhono 3 Black Label

## \$995

The iFi iPhono 3 is a long, relatively thin and compact rectangle, with small dipswitches on the bottom. The input

connections are at one end, and the outputs are at the other. It's as unassuming as a phonostage can be, but that simplicity hides a surprising flexibility. The iPhono features loading options from 22 ohms on up to 47k ohms, with six stops between, and either 36, 48, 60, or 72dB of gain. Low end is hefty, mids are equally smooth, and the upper registers really sparkle. The dynamics are extra tight and shimmery, likely due to the iPhono's very low background noise. Highly recommended. (317)

## Chord Huei

### \$1495

The Chord Huei is a compact black rectangle, which features four glowing lights bumped up along the front that control the loading options.

The Huei includes gain steps from

49dB up to 70dB with six total stops in between for the mc section, and 21dB on up to 42dB with six stops for the mm section; loading allows for 100 ohms up to 3700 ohms for mc, and 47k ohms for mm. Sonically, the low end is solid and the mids very smooth; the overall presentation is on the warm end of the spectrum. (317)

## Hegel V10

## \$1500

Norwegian-based Hegel had previously shied away from making a phonostage, but has come out of the blocks with a high-performing unit that is easy to use and easy on the budget. The initial design brief was to create a small, inexpensive starter box for the budding, cost-conscious LP lover. As chief designer Bent Holter delved into the project, he soon realized that he could do much better if he put in the extra time and effort—and parts upgrades to produce a reasonably priced phonostage that performs more like some of the more expensive units. Instead of op-amps, as one might expect at this price level, the V10 uses four ultra-low-noise discrete JFET transistors, connected in parallel to aid in reducing external noise, for both the moving-magnet and moving-coil inputs. The sound is remarkably detailed, open, and full-bodied. Plenty of mm and mc cartridge loading and gain settings are offered. The V10 is highly musical and "audiophile competent," to a degree that makes it an obvious audition choice for anyone seeking a phonostage close to the \$1500-\$2000 range—and possibility higher. (320)



## Musical Surroundings Nova III

### \$1500

The Nova III is the third iteration of Mike Yee's phono preamplifier and represents a new direction, battery power giving way to a sophisticated "DC-to-DC converter to turn the single-ended wall power supply (+24V) to an isolated split power-supply (to isolate the Nova III further from the power mains)." The result is that the almost peerless neutrality of previous Novas has been retained but with a new impression of body, solidity, and dimensionality, almost as if the reproduction is a bit more grounded, yet without losing any sense of quickness, agility, timing, and detail, plus a real increase in dynamic punch, kick, and drive. Uunrivaled in its ability to match impedance or capacitance to any MC or MM pickup on the market, the III is at once intrinsically superb yet also an outstanding value. (forthcoming)



## Gold Note PH-10

## \$1599 (\$1199, PSU-10)

The solid-state PH-10 (and matching optional PSU-10 power supply) is a half-width component, which makes

for easy and flexible placement in, or on top of, a cabinet or rack. Fit and finish are excellent. All functions (EQ curves, impedance loading, gain) can be adjusted and confirmed via a front-panel TFT display on-the-fly while playing music, allowing specific individual settings to be made for every single record. Its overall presentation is transparent and neutral (with a slightly warm tone and a weighty midrange). Some phonostages pursue "absolute technical objectivity" as their goal. The PH-10 is not that kind of product. It's all about the music. If you're a "truth-seeker," there are other products to choose from, but if you're a "pleasure-seeker," then the PH-10 is for you. (305)

## Moon Audio 310LP

## \$1950

The Moon 310LP is both precise and poetic, capable of beautifully nuanced changes of tempo, mood, and dynamic shadings. The 310LP is also a highly flexible device: Loading options are 10, 100, 470, 1000, and 47.5k ohms; capacitance loading is 0, 100, and 470pF, while gain settings are at 40, 54, 60, and 66dB. With its lownoise floor, the 310LP opens a transparent window on the music, with impressive tonal naturalness from top to bottom. (225)

## Sutherland Engineering



## \$2200 (\$2650 with optional Linear Power Supply)

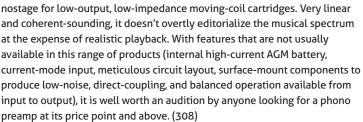
Ron Sutherland has a thing for phonostages, and quite a track record, too. His 20/20 builds on the lessons learned from Sutherland's top battery-powered design, the Hubble. But rather than using batteries, the "two-mono" 20/20 is AC-powered by a pair of outboard "regulated desktop power supplies" that connect to sockets located at the front of each circuit board. Like other Sutherland designs, the 20/20 is remarkably transparent to the source and very beautiful-sounding. It may not have the ultimate weight and "slam" of some units, but that's not the point. Expect a very low noise floor, terrific immediacy, and a seductively natural musicality that should prove highly rewarding over the long run. (215)

## **PHONOSTAGES**

## Channel D Lino C 2.0

### \$2699

Channel D Lino C 2.0 is a current-mode (transimpedance) pho-





## Parasound Halo JC 3+ \$2999

It was only a matter of time before electronics design

legend John Curl would author a phonostage for Parasound. Dubbed the JC 3+, it's a dual-mono design. Each channel is housed in its own extruded aluminum enclosure, and further isolated from the power supply with thick, low-carbon-steel partitions. With top-quality parts throughout (Curl notes that the passive EQ parts' values and quality are the same as in his renowned Vendetta Research SCP2B phono.) With every rotation from an LP collection, the JC 3+ conveys a heady mix of profound silence and kick-butt energy, a kiss of romance through the mids, and an ability to extract low-level information and define it within acoustic space. (245)

## EAT E-Glo S with LPS

## \$3795

European Audio Team (E.A.T.) has taken the ECC83 dual-triode tube and merged it with solid-state electronics to create the E-Glo S mm/mc phonostage. When it is coupled with the LPS external linear power supply, the E-Glo S's performance improves, resulting in increased listening pleasure. Sonically, the E-Glo S/LPS combo produced a consistently easygoing sound that never ventured into aggression. While the E-Glo S/LPS isn't the most resolving or dynamically agile phonostage reviewer Andre Jennings has heard,

it is fine enough to capture the essence of the music and deliver it with sufficient information to allow many hours of listening pleasure. (298)



## Pass Labs XP-17

## \$4300

Pass' entry-level, single-chassis, dual-mono design builds upon and updates its popular XP-15. Widely adjustable for mm and mc cartridges, sonically this solid-state phonostage does everything right. It speaks pure "analog" with a fluent voice, silent backgrounds, and an appealing warmth, liquidity, and midrange bloom. The XP-17, like virtually all Pass gear, suggests a more complex dimensionality that improves the width and depth of soundstages. Its rich tonal palette defines and makes more meaningful each instrument of the orchestra. Vocals have shape and



form—tactile presence. Its role is to convey the signal with minimal commentary, while letting the music prevail in all its detail and emotion. A splendid component. (302)

## HIGH-END AUDIO BUYER'S GUIDE **2022**

## Boulder 508

## \$5000

The superb 508 mm/mc phonos-



tage is a fully balanced solid-state design that has all the virtues of the traditional Boulder sound. It's very quiet, allowing the phonostage to extract tiny nuances from LPs that fuller-sounding phono preamps might gloss over. The 508 is superbly linear in performance, allowing it to navigate the treble region without a hint of glare. Bass is robust but never overwhelming. The resolving power of the 508 means that is capable of rendering the most delicate musical passages with finesse and ease. The 508 may be diminutive in size, but not in performance. (313)

## VTL TP-2.5i

## \$5000

This nimble and lithe performer punches above its weight. While it does not provide the resolution of megabuck phonostages, the TP-2.5i sails easily through complex orchestral passages and dynamic rock songs alike. VTL offers used-adjustable cartridge impedance matching, as well as different levels of gain. Inputs for both moving-magnet and moving-coil cartridges are also included. Not least it also has a mono switch.

Consistent with the VTL house sound, the TP-2.5i unites dynamism with seduction. Thanks to the 12AU7 tube



in the moving-coil section, the touch of tube bliss that the TP-2.5i brings to vinyl reproduction is altogether a good thing, adding a dollop of beauty to more than a few LPs. (302)

## Channel D Seta/Pure Vinyl

## \$5899-\$7598, Seta; Pure Vinyl, \$379

The Seta Phono preamp performs all the functions of a conventional analog phono preamp, but its most salient additional feature is that it has multiple outputs, and one of these is a "flat" output that does not have an EQ curve. The reason for the "flat" output is so that users can do their RIAA or other EQ curve digitally via Pure Vinyl software. Together they produce results that are sonically equivalent in quality to the original LPs. If you've been waiting for the state of the art in digital transfers to improve before committing any of your vinyl to digital, the time has come to begin your own archiving process. The Pure Vinyl/Seta combo will give you all the tools you need to do the job right. (238)





## TAURUS

Rockport Technologies

## Aesthetix Rhea/Rhea Signature

## \$6000/\$8500

With three inputs, variable cartridge-loading—adjustable via remote control—and a front-panel display of gain and loading, the Rhea is a versatile phonostage. Although it has tons of gain, the noise level is relatively low, making it compatible with a wide range of cartridges. The Rhea's family resemblance to the Calypso linestage is unmistakable: transient quickness, effortlessness on crescendos, and a deep, layered soundstage. The Signature version of Aesthetix's Rhea vividly demonstrates the value of component quality. Although the circuit is identical to that of the Rhea, the Signature uses ultra-premium parts. The result is a much better bottom end, even smoother timbres, and (surprisingly) greater di-

mensionality. Rhea owners can upgrade to the Signature for the difference in retail price. The Signature upgrade is expensive but well worth it. (151, 196)



## Coincident Speaker Statement

## \$6499

Coincident has surpassed itself with its marvelous new tube phonostage. Powered by a 40-pound separate power supply that connects to the main unit with an umbilical cord, the Coincident packs an unbelievable wallop, particularly in the bass. The Coincident is tailor-made to drive rock or orchestral music. Its rich midrange, deep bass, and sizzling dynamic swings make a wide variety of LPs



sound more lifelike, endowing the music with a real sense of drama and urgency. Vocals have a creaminess to them that is difficult to resist. Put bluntly, the Statement makes a real statement. (forthcoming)

## **Esoteric E-02**

## \$9500

Esoteric's top-ofthe-line, reference phonostage, the fully balanced E-02 is refreshing for all the unnecessary things it



doesn't do, which is essentially everything but amplify a very small signal (phono cartridge) thousands of times. This is a beautifully built and executed solid-state design with a high potential 72dB of gain in balanced mode, served up in an "invisible hand" manner that reminded reviewer Allan Moulton of other reference solid-state phonostages from Boulder and Constellation Audio which are 3–7 times more costly. Not for those who like to fiddle with fine loading adjustments, EQ options, or tube rolling (because there aren't any). The reward for the E-02's set-and-forget simplicity is a listening experience without a forced perspective. It quickly establishes in the listener a trust that the amplified cartridge's signal is simply the best version of itself, and nothing more. At \$9500, the least expensive phonostage that AM has heard that can retain this trust. (294)

## Zanden Audio Model 120

### \$9800

This entirely new, entirely sol-



id-state phonostage (with outboard power supply) from the great Japanese audio engineer Kazutoshi Yamada is the entry-level companion piece to his Model 8120 power amp and 3100 line-stage preamp. Like the amp and preamp the Model 120 is sonically superb, designed with an almost magical ear to what makes music sound sweet and lifelike. When you throw in very high resolution of inner detail, great bass, the incredible soundstaging and imaging for which Yamada's Zanden gear has always been famous, and (for those whose taste tends this way) a panoply of user-selectable EQ curves, you get a demure little phonostage that is very hard to best no matter how much you spend. (259)



## Pass Labs XP-27

## \$11,500

Although it's Nelson's surname that the CNC machine is programmed to etch into the faceplate of Pass Labs products, for

more than 25 years his engineering partner, Wayne Colburn, has been largely responsible for designing the company's preamps, phonostages, and integrated amplifiers, leaving Nelson to focus on his main love, power amplifiers. The XP-27 is a dual-chassis design employing double-shielded toroids, two of them, in the power supply. Colburn is obsessed with lowering the noise floor of the electronic devices he creates—switching and loading in this phonostage is accomplished at a relatively high signal level to help achieve this end, which is good news for fans of ultra-low-output mc cartridges. The XP-27 is also notable for its ease of use. Front-panel knobs have multiple settings for resistive load and reactive load (i.e. capacitance); plus, there are three gain settings, appropriate for pretty much any species of cartridge. The XP-27 has two sets of RCA inputs; so, analog aficionados with two turntables can keep both decks connected at once. RCA and XLR outputs, one set of each, are provided. A superb choice for vinyl-loving old hands, as well as those who may be coming home after a sojourn in the digital desert. (316)

## Balanced Audio Technology VK-P90

## \$12,995

The restless mind of Balanced Audio Technology's Viktor Khomenko is constantly searching for ways to improve his mostly tube products. The VK-P90 phonostage is a prime example of his readiness to move toward more elegant sonic solutions. It features a shift away from capacitors in the output stage to proprietary transformers. The aim, as always, is to deliver increased detail, a lower noise floor, and above all, a more refined sound. On all counts, BAT has succeeded handsomely. The number-one issue that can plague phonostages, particularly tube ones, is noise in the form of hum or buzz. Not here. The VK-P90 is dead-quiet, allowing you to hear deep into the grooves. There is no hint of sibilance or glare. Rather, the unit has a full and lush sound but without sacrificing the micro-detail so treasured by audiophiles. While it remains slightly voiced on the darker side of the sonic spectrum, the VK-P90 resides at the apex of phonostage design. (263)

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## Moon Audio 810LP

## \$13,000

The 810LP is technically impressive, particularly its heroic power-supply design and vibration-isolation measures. It's also solidly built, offering a wide array of gain and loading options that makes optimizing its performance for any cartridge a snap. With sound quality that is world-class by any measure, the 810LP combines a dead-quiet background, a pristine clarity of timbre, outstanding dynamics, and an expansive and well-defined soundstage. Even under the microscope of the Magico Q7 Mk II loudspeaker, the 810LP impressed, not just with its audiophile attributes but also with how musically compelling it made LP listening. RH's reference. (231)



## FM Acoustics FM 122-MKII

## \$13,975

A tiny Class A phonostage (and linearizer) with infinitely adjustable curves (one of FM's most famous innovations) to properly EQ mono recordings made before the RIAA era, the FM 122-MKII tells you the truth about LPs without robbing them of their inherent musicality. This is a very transparent component that gives you a keen insight into how recordings are being recorded, without adding any sense of the analytic or much color of its own. Regardless of the virtues of newer-gen Swiss gear (and there are many), this still remains a formula for successful playback, and FM Acoustics still remains a marque you ought to audition before making an ultra-high-end purchase. (286)

## Brinkmann Audio Edison MK II

## \$13,990

Reviewer Jacob Heilbrunn listened to the Edison both through the Brinkmann Marconi and Ypsilon Silver PST-100 preamp, which afforded him the opportunity to hear exactly what it was—and was not—doing. The sheer artistry that the Edison conveyed on the Philips recording *The Delectable Elly Ameling* was a combination of the sublime and the beautiful. On Mozart's wonderful motet *Exsultate, Jubilate,* the Edison tracked every syllable, every quaver, every trill that Ameling enunciated during her ravishing performance. There wasn't a trace of sibilance



or harshness. Instead, the Brinkmann delivered a posh, upholstered sound that was quite delectable. Breathtaking, actually. (301)

## Zesto Audio Téssera Reference

## \$18,000

The Greek word téssera refers to the number 4. The name is fitting in function since the recently updated Andros Téssera Reference phonostage supports four inputs. The two-box (main unit and power supply) Téssera accepts two moving-magnet and two moving-coil inputs, or up to four low-output moving-coil cartridges with the use of two additional external step-up devices. The Téssera has adjustable gain and variable loading (twelve loading selections for its moving-coil inputs). Sonically, it is full-bodied and composed. Everything stays in place, solidly rooted to



its location, and is presented with a feeling of warmth. The sound created by this phonostage maintains dynamic development and much of a note's decay when called for. Without favoring one over the other, it reproduces all music genres fairly evenly. (287)

## Constellation Revelation Andromeda

## \$25,000

The John Curl-designed Andromeda uses some of the same building blocks found in the Pictor linestage, including three separate power



supplies in an outboard chassis. (A separate optional DC Filter unit can also be used.) The Andromeda can accommodate up to four cartridges—two moving coils and two moving magnets (one each XLR and RCA). Impedance for moving-coils can be set from 5 ohm to 999 ohms in one-ohm increments via a knob on the main unit's rear panel. Moving-magnet settings allow for three capacitive and three resistive loading options. The trick, as with any phonostage, is to apply the RIAA equalization curve accurately and add enough gain to increase the low-voltage cartridge output to line-level standard (about 2V in most consumer audio products), while also preserving signal integrity and keeping noise to a minimum. The Andromeda does a marvelous job at these things. Reviewer Kirk Midtskog has heard plenty of mega-buck turntable rigs, and the Andromeda made his sound much much closer to those setups than he thought possible—fabulously clear, open, impactful playback. (294)

## Van den Hul Grail SE

## \$25,995

Audio legend A.J Van den Hul is famed for his Speed Racer-like cartridges, but he has also made a serious run at phonostages in recent years. The solid-state, fully balanced Grail SE is his effort to produce a top-drawer phonostage. It features a current-mode input that is supposed to optimize the energy transfer between a moving-coil cartridge and the input and ensure that there is zero hum. If the Grail is anything to go by, the proponents of current-mode phonostages are onto something. The Grail packed a real wallop on jazz big band and orchestral recordings, a testament to its wonderfully low noise floor. It did not possess the bloom of tubed units

nor reach quite as far into the back of the hall as some other current-mode phonostages. But its silky sound and dynamism are an enticing package, indeed. (302)



# New Model Seven XTRM Redefining Excellence

"The Vandersteen Model Seven Mk II loudspeakers and M7 High-Pass Amplifiers are very easy to listen to, never any fatigue even after listening for many hours, the articulation is fabulous along with a marvelous ambience and a wide-open soundstage. I love the way musical cues seem to jump out of the mix. This Vandersteen system is supremely musical."

-Roy Halee

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## **PHONOSTAGES**

## Zanden 1200 Signature

## \$26,765

When JV heard the original version

of the tube-powered Zanden 1200S phonostage with user-selectable EQ, better than a decade-and-a-half ago, he was amazed by its reproduction of acoustic space. It simply put more acreage between and among instruments than any other audio component he'd ever reviewed, and with that incredible increase in separation came a commensurate increase in the audibility of each instrument in an ensemble—what it was playing and how it was being played. The only downside to the original Zanden 1200S was its bass range, which was a mite fat and plummy in the way that tube gear then sounded. The latest iteration of the 1200S no longer suffers from bass bloat. Indeed, it is positively superb in the bottom octaves, reproducing pitch, timbre, intensity, and duration with the blur-free clarity of solid-state. The Zanden's clarity extends from bottom to top, making the 1200S perhaps the highest-resolution tube phonostage JV has heard. As with the Walker Signature Phono Amplifier, the Zanden's resolution has not been bought at the expense of naturally rich tone color or lifelike three-dimensionality and bloom. You get the whole nine yards with the latest 1200S, which is one of the finest tube phonostages on the market. (293)



## **CH Precision P1**

\$31,000 (\$48,00 w/X1 power supply; \$89,000 mono configuration with two X1 power supplies) This current-amplification (or transimpedance) phonostage, with out-

board X-1 power supply, from the illustrious Swiss engineers at CH Precision boasts enormous dynamic swings, cavernous soundstaging, superb transient fidelity, and unrelenting grip. Though it does not pass along the same amount of harmonic information as reviewer JHb's reference Ypsilon phonostage—a difference JHb ascribes to the eternal tubes-versus-transistors divide—champions of solid-state are going to point to the CH's excellent neutrality, dynamic heft, and ability to peer into the most remote recesses of an LP. Tube lovers are going to find the CH too neutral. It just doesn't add anything to the mix. Rather, it reveals in microscopic detail what is taking place during the performance. JHb's experience has been that, with a level of detail and background silence that tube units cannot summon up, it is useful, even salutary, to toggle between the CH Precision and his Ypsilon. The sheer accuracy of the P1 is enticing in itself. (297)

## Audio Research Reference Phono 10

## \$33,000

In the heart of the midrange, where vocals and instrumentals live, JV has heard no more realistic phonostage than Audio Research's two-box Reference Phono 10 phonostage. Why this unit and ARC's



companion Reference 10 Linestage are so extraordinary is easier to hear than it is to describe. Through the Ref 10, imaging is fluid and dimensional rather than fixed and flat. As a result, instruments that usually sound as if they are pinned to a cork board come alive—seemingly growing larger and moving closer as they play more loudly, and receding as they play more softly. When you couple this lifelike imaging to the most spot-on reproduction of midband timbres JV has heard from any electronics, you get in the midrange (though no disgrace, the Ref Phono 10 is not the champ in the bass or treble) one of the most realistic phonostages on the market. The Ref Phono 10 comes with a touchscreen and a remote that allows you to select loading, EQ, and many other parameters without having to hoist your fat ass off the sofa. (242)

## HIGH-END AUDIO BUYER'S GUIDE **2022**

## **Constellation Perseus**

## \$43,000

When it comes to resolution, pure and simple, this two-box solid-state phonostage from Constellation (by way of John Curl and Peter Madnick) stands tall. Indeed, the Perseus is one of the highest-resolution electronic components JV has heard. Very little in the way of detail, low-level or high-, escapes it. It is also exceedingly fast on transients. While it does not rival the Soulution 755 or the VAC Statement Phono Stage in bass and power-range tone color, weight, and impact, and it can sound a bit bright and dry in the treble if your cartridge isn't loaded down properly, like all Constellation gear it has an exceedingly beautiful and lifelike midrange. If hearing everything with utter clarity is your chief criterion and you're

seriously into LPs, the Perseus is a must-audition. (272)



## Goldmund PH3.8 NEXTGEN \$44.975

Goldmund's original PH3 phonostage was released in 1995. There followed a long dry spell wherein the company concentrated on digital playback, but with the LP revival of the past decade Goldmund has seen the light, and the PH3.8 NEXTGEN is the first proof. Unlike the single-box PH3, the PH3.8 NEXTGEN is a two-chassis component, with a separate external power supply. The unit's slew rate of >80V/µs and rise time of <400ns, combined with its very low noise and very high bandwidth, are said to be keys to its transient speed, slam, and dynamic weight, all of which are manifestly apparent. But the PH3.8 NEXT-GEN doesn't just deliver the lifelike speed and impact of hard transients; it also, and simultaneously, gives you the soft conical wood of, say, a drumstick's tip and the sandy texture of the batter head, shell, and snare head-so you're not just hearing a brief electrifying moment of contact, like a match being struck, but also the color, texture, and action of the instruments making that contact as the event unfolds in time. A genuine contender for the laurels. (312)







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## HIGH-END AUDIO BUYER'S GUIDE **2022**

## **PHONOSTAGES**

## Boulder 2108

## \$53,000

Boulder made waves with its 2008 phonostage well over a decade ago, but the 2108 shows that its efforts have not crested. Quite the contrary. The fully balanced 2108 is markedly superior to its predecessor, both in terms



of a lower noise floor and a more mellifluous sound. Gone is any hint of the sterility that some detractors professed to discern in the 2008. Instead, the 2108, which has a separate power supply, is a suave performer. Its iron-fisted control is always in service of the music rather than the reverse. On LP after LP, the 2108 conveys the phenomenal transient accuracy that has become a hallmark of Boulder equipment. It stands at the apex of solid-state reproduction of vinyl records. (306)



## Soulution 755

## \$72,000

At the moment JV uses three superb phonostages—the Goldmund PH3.8 NEXT-GEN, the Constellation Perseus, and, the Soulution 755. Although the Goldmund

and the Perseus have considerable virtues, the Soulution 755 seemingly combines their strengths, virtually undiminished, in a single package. The 755 is also the most versatile preamp of the bunch. With a built-in volume/balance control, three analog inputs (two mc and one mm), and two line-level outputs (one XLR, one RCA), the 755 is not only a supremely fast and detailed, gorgeous sounding, immensely powerful, surprisingly three-dimensional (a Soulution strength) standalone phonostage, but, for analog fans, it also obviates the need to purchase a separate linestage preamplifier (and a pair of high-quality interconnects). If you listen to records exclusively, you can go directly out from the 755 to your amp (and subwoofer, if you use one) with fully adjustable control of volume and balance. A technical and sonic tour de force, the 755 phonostage may be the single most impressive component Soulution has yet made. (272)

## VAC Statement Phono Stage

## \$80,000

You're really gonna have to be devoted to vinyl (and madcap spending) to afford this two-chassis, all-tube phonostage from VAC's Kevin Hayes. But...if you've got the dough and the itch, you're also going to have to go a very long way to find a superior glass-bottle unit. Capable of 76dB gain (which can be upped to 82dB at customer request), this thing has more input headroom than any other phonostage JV has had in his system. The sonic results are audible, as the Statement Phono Stage never hits a "dynamic ceiling," the way other tube and transistor phono- stages so often do. You will hear none of the slight

compression or outright clipping at very very loud levels that you sometimes hear with other phonostages, especially those equipped with input transformers or JFET front ends. Plus, you will get the most exquisitely dark, rich timbres and beautifully resolved textures you've heard this side of an SET, without any of the fat-potato bottom-end or treble roll-off of an SET. Indeed, alongside the Zanden 1200, the Statement has the best low and high end of any tube phonostage JV has heard. (263)





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## **NAD C658**

## \$1649

NAD's C658 offers a wide range of features and functions in an affordable and good-sounding package. This streaming DAC, operated via the BluOS app or remote control, has a phonostage, analog inputs, subwoofer outputs with configurable crossover, full analog and digital preamplifier functions, and Dirac Live DSP room correction. This last feature has the ability to greatly improve the sound, particularly in problematic listening rooms. The C658's sound is excellent, with tuneful bass and a spacious soundstage. (313)



## NuPrime DAC-10H

## \$1995

Although the DAC-10H is only 8" wide by 2.4" high by 14" deep, which corresponds to roughly half the width of a "full-sized" component, it packs a lot of features and performance into a small package. The digital section is built around the ESS Sabre Reference ES9018 32-bit DAC. According to NuPrime this chip can deliver 135dB signal-to-noise with -120dB total harmonic distortion levels. The DAC-10H has borrowed the stepped, thinfilm, switched-resistor ladder network for controlling volume from the NuForce P-20 preamplifier. This method uses a MUSES chip combined with a proprietary look-up table to ensure that

only a single resistor is in the signal path at any volume setting. Inner detail and low-level resolution through the DAC-10 are as good as SS has heard through any DAC, including the Antelope Audio Platinum DSD DAC. The differences in depth recreation and soundstaging precision between his original 128x DSD recordings and 44.1k down-sampled versions were immediately obvious when comparing them through the DAC-10H. (255)



## Gold Note DS-10 Plus

## \$3695 (PSU-10 adds \$1299)

The Gold Note DS-10 Plus DAC/preamp with /PSU-10 power supply is capable of producing reference-level sonics and has a feature set that includes all the essentials, including Ethernet and Wi-Fi, a true all-analog signal chain, and 192 different filter settings. If you bypass all the offered flavorings, the DS-10 Plus sound is neutral, which is a good place to start, especially if you plan to alter the sound in some way. When you factor in a dedicated remote and headphone capabilities as well as Roon and MQA compatibility, you have a component that does everything that a current-generation DAC/preamplifier needs to do, and it does it well. (319)

## DiDit High-End 212se

## \$4000

Built around ESS Technology's Sabre ES9018 sigma-delta 32-bit DAC, the 212se actually succeeds in sounding eminently musical and more relaxed than its competition. It shines in tonal conviction, deep bass solidity, and textural sweetness, while transient response, both at the point of attack and during reverberant decay, is enhanced by an exceedingly low noise floor. However, its most remarkable sonic attribute is spatial resolution. It delivers precise image focus and refined layering of the depth perspective. There are two operational modes: DAC and preamp. The DAC setting bypasses the volume control and emulates a regular DAC. The 212se circuitry is fully differential from input to output and only XLR output connectors are provided, which means that those of us with single-ended amplifiers or preamps will need to use XLR-to-RCA adapters. All of the unit controls are accessible via a cigar-shaped remote control. (283)



## HIGH-END AUDIO BUYER'S GUIDE **2022**

## PREAMP/DACS

## Bel Canto Black EX

## \$13,000

This highly sophisticated DAC/preamplifier makes it easy to access streaming services such as Tidal. In addition to being Roonready, the Black EX offers full MQA decoding. It even has a phonostage and headphone amplifier. The Black EX also offers special provisions for using a subwoofer and can be controlled via an app. Sonically, the Black EX is highly revealing of details in even the most complex and dynamically demanding musical passages. The extensive digital processing doesn't add a hint of hardness or edge. Even standard-resolution sources sound superb through the Black EX. (290)



## CH Precision C1

## From \$32,000-\$42,000, depending on configuration

The C1 is a uniquely flexible control center that can accommodate all manner of digital inputs: SPDIF, USB, streaming PCM or DSD, and DSD from SACDs via the proprietary CH-Link between the C1 and its companion D1 CD/ SACD transport. An excellent, optional analog input board is also available. The C1 creates magnificent colors (but never euphony), dynamic fireworks (without overshoot), startling transients (minus any edginess), and jump-up-and-dance rhythms (with zero slop). Nor are spatiality and resolution slighted. The C1 also reproduces every dynamic, timbral, and rhythmic flux. And although you can hear every little thing going on in the mix, it all comes together organically—as it does in real life. The C1's performance with data streaming from a NAS drive deserves special mention for stripping away the glaze that is all but unavoidable with USB. Best used with balanced inputs and outputs. (239)



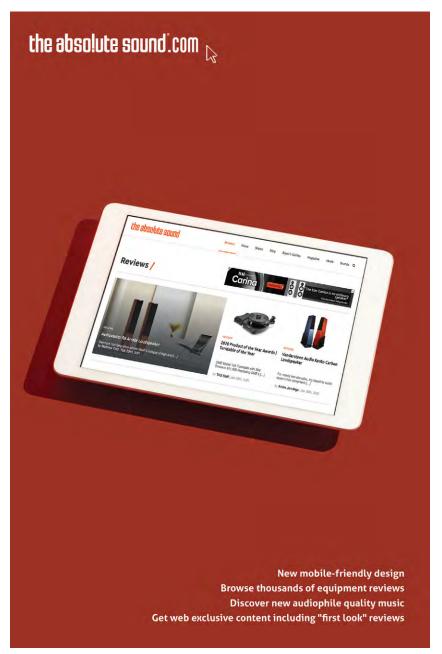
## T+A SDV 3100HV

## \$37,500

The SDV 3100HV DAC is the most feature-laden, capable, and sophisticated digital product RH has reviewed, offering network



streaming, Roon capability, FM/Internet radio, Bluetooth, DSD decoding up to DSD1024, and more. It features an advanced upsampling algorithm that converts incoming signals to 768kHz for conversion by the DAC. The unit also has native DSD decoding with an entirely separate signal path built around T+A's discrete DSD DAC. The SDV is a superb-sounding component, rendering PCM with exceptional dynamic verve, tremendous bottom-end grip and definition, and fine rendering of high-frequency detail. This DAC is particularly impressive with standard-resolution files and CDs, where T+A's upsampling algorithm narrows the gap between CD-quality audio and true high-res. Beautifully built and a joy to use. (301)





## AudioQuest DragonFly Black, Dragon-Fly Red, DragonFly Cobalt

## \$119/\$229 /\$329

AudioQuest practically invented the low-cost, high-performance USB DAC in stick form with the

original DragonFly. It was a massive success. But these three newer models greatly improve on the sound of the original, and the \$99 Black version comes at a lower price, to boot. Although the Black sounds superb, the Red and Cobalt are worth the difference in cost. The Red at \$229 delivers striking sonic quality, with exceptional transparency, resolution, timbral realism, and wide dynamics. The Cobalt, with its upgraded DAC and processor chips, delivers greater smoothness and resolution than the Red, with a more refined character. Dynamics are also improved, along with a more robust bottom end. No matter which model you choose, you can't go wrong. Add AudioQuest's \$69 JitterBug USB isolation device to any of the three and take the performance up another notch. (270, 302)

## iFi Zen DAC

### \$129

The Zen DAC offers a lot of features and high sound quality at an entry-level price. When it is mated



with other high-performance components, SS found the results reference or near-reference level, though the Zen does require careful system-matching and quality cables that will likely cost far more than the DAC itself. Ideal users for the Zen DAC fall into two groups: younger, newly minted audiophiles looking for good sound on a budget for nearfield listening; and older ones looking for an inexpensive way to add MQA DAC capabilities and a decent headphone amplifier to their room-based reference systems. The former will use all of the Zen DAC's features, while a majority of the latter will set it on fixed output and use it as a basic DAC. Both win. (313)



## **Schiit Modius**

## \$199

In the bad old days, between 1980 and 2000, decent-sounding digital devices were almost universally expensive, to the point that it was generally assumed and often stated by audio experts

that inexpensive digital products were garbage unless heavily modified. The Modius balanced-output DAC is one of the latest of the new-generation DACs that challenge that old assumption. It delivers great sound from PCM files and has enough digital input options for most systems, but it does not support MQA or DSD files and has no user-alterable digital filter settings. However, if you want a simple and simply great just-the-facts DAC, Modius fills the bill. (311)

## iFi xDSD

## \$399

Reviewer Steven Stone see two quite different "types" of audiophile as the primary customers for the xDSD. First, younger, more mobile-oriented audiophiles with smartphones and portable computers could find the xDSD to be the perfect

"step-up" audio device to improve all their sources' sound. Second, longtime audiophiles (the ones with the 25-year-old DACs that they still love for Red Book) could add an xDSD to their system as an auxiliary digital device that would give them access to all the newest high-resolution files, streams, and digital codecs for a pittance of what they spent on their "main-squeeze" DAC. Both types of audiophile will be pleased and impressed by the xDSD in terms of flexibility, utility, performance level, and overall value. (289)



## Pro-Ject Pre Box S2 Digital

The Pro-Ject Pre Box S2 Digital offers audiophiles a very high-value DAC/ digital preamp at an almost ridiculously low price. Not only does it include a plethora of important features and capabilities, but it sounds good, has an elegantly designed control surface, and is expandable. Perhaps the best way to view the Pro-Ject Pre Box S2 (and most of the components in the Pro-Ject S2 line) is as a sonic building block or Lego. You can acquire Pro-Ject components to do exactly what you need, no more and no less, and acquire them as you need them. While not quite bespoke audio, the Pro-Ject Pre Box S2 is one small part of an elegant system that gives even audiophiles with limited means a way to assemble a first-class audio system tailored specifically to their needs and requirements. Small, in the case of the Pro-Ject Pre Box S2 is, indeed, beautiful. (289)

## Schiit Audio Bifrost 2

## \$699

The Bifrost 2 is a "True Multibit" DAC, combined with Schiit's custom in-house digital filter. It includes Schiit's new Unison USB, which is its proprietary custom USB input. Schiit took the original Bifrost and gave it some custom upgrades: a new power supply, a new 18-bit Analog Devices AD5781ARUZ D/A converter, and its new custom USB. The Bitfrost 2 accepts formats up to 24/192 for all inputs (USB, coax, optical). Reviewer DK found it was dynamically tight, rhythmically appealing, and absolutely unyielding when it came to source files. It had an unrelenting edge that rewarded quality and revealed every little flaw. Highly recommended for anyone in search of a laser-focused accurate DAC. (309)





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## Soekris dac1421

## \$899

Two things jump out immediately about Soekris DACs. First, they're all discrete R-2R sign-magnitudedesigns. In particular, the dac1421 features a 27-bit ladder, built with over two hundred 0.02% thin-film resistors. Second, all Soekris products are designed and made in Denmark. The output stage can be switched to either line or headphone output. There are four user-selectable anti-aliasing filters, giving you enormous flexibility in tailoring the DAC's sonic signature to suit your particular taste and system needs. With the digital filter set to soft Butterworth, the Soekris equals or exceeds the performance of TDA1543-based DACs in terms of analog-like sound quality, offering superior imaging, enhanced transient clarity, and superior resolution of micro-detail. In the final analysis, this diminutive DAC and headphone amp delivers superb sound quality and underscores the sonic benefits of a discrete R-2R sign-magnitude design. (311)

## Cambridge CXN-2

## \$1099

The CXN-2 provides a good-sounding entry into the world of streaming media without costing a fortune. It is supplied with the Cambridge Connect app, which makes selecting and managing music easier than Tidal's native app. The CXN-2's small front-panel screen is hard to read unless you're up close. The sound quality is a significant step up from the integral DACs in Cambridge's integrated amplifiers, with more space, a smoother tonal balance, greater refinement, and more powerful dynamic impacts. (311)

## **Chord Qutest**

## \$1695

The Chord Qutest integrates the entire frequency spectrum in a holistic, organic way that just sounds right—not too soft or hard, detailed without being harsh, and relaxed without being flaccid. While I would not go so far as to call the Qutest "analog-like," since that is not necessarily always a positive attribute, I would say the Qutest recreates digital music with a non-digital character that emphasizes its musicality without sacrificing detail or dynamics. And while I did not compare the Qutest with its higher-priced brethren, I did hear that it possesses a certain "rightness" to its sound that I could live with happily for a long time. The Qutest is both neutral and incisive, just like its "best" filter says it will be. If you have a basic but flagship-level DAC that is more than ten years old, and you have been thinking about modernizing I would strongly recommend trying the Qutest before you go ahead and replace your DAC with something with an additional zero at the end of its price tag. (293)





## Benchmark Media Systems DAC<sub>3</sub> B

## \$1699

The DAC3 B is the latest iteration of a design Benchmark has been

making for more than 15 years. This new model incorporates the latest technologies, including the ESS ES9028PRO converter chip. A new conversion process increases headroom by 3.5dB, reducing a type of overload distortion. Other kinds of noise are also lower than in the previous iterations. The base model offers a wide array of digital inputs as well as balanced and unbalanced analog outputs. The HGC (Hybrid Gain Control) version adds analog inputs, source-switching, and a volume control, imbuing the DAC3 B with full preamplifier capabilities. Sonically, the DAC3 B is like other Benchmark products, neutral and transparent. The DAC3 B focuses on PCM audio, with no DSD or MQA decoding. (311)

## **ANKits DAC2.1 Signature**

### \$1700

ANKaudiokits.com is home to a line of kits based on Audio Note UK designs. It's a tube aficionado's dream come true, featuring a tube-rectified-and-regulated



high-voltage power supply. Much of the kit's success is ultimately in the customer's hands, the one exception being the digital board, which is supplied fully assembled, complete with an Analog Devices AD1865 dual-18-bit chip, an R-2R design that can handle up to a 24/96 data stream. Unlike so many DACs that manage to sound uninvolving, no matter how outstanding the digital circuitry may be, the ANK stays true to its tube essence. Tonal colors are nicely saturated while harmonic textures are silky smooth and never bright. As EveAnna Manley is fond of saying: Tubes Rule! (320)



## Schiit Audio Yggdrasil

Designed by industry legend Mike Moffat, the Yggy DAC sounds very much like the famous Theta Digital DACs that Moffat designed in the

1980s and 1990s—but better. Like the Theta DACs of yore, the Yggy has a bold, assertive, vibrant, even vivid presentation. Because of this startling clarity, individual musical lines within complex arrangements are spatially and timbrally distinct. This has the effect of revealing each musical part with greater precision, as well as the intent of each musician—and with that comes a fuller, richer, and more complex presentation of the composition and arrangement. Transient attacks, from a hard-hit snare drum to the most delicate tap on a cymbal, are startlingly fast, defined, and vivid. If you're looking for a DAC that does quadrate DSD, decodes MQA, offers a volume control, and includes a headphone amp, look elsewhere. But if the very best reproduction of PCM sources is your goal, the Yggdrasil is the ticket. It's a spectacular performer on an absolute level, and an out-of-this world bargain. (274)



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## M2Tech Young MkIV DAC/Van Der Graaf 4 Power Supply

## \$2995/\$940

From the same country that brought us Ferrari,

Da Vinci, and Stradivarius, the Young MkIII DAC (recently updated to the not-yet-reviewed MkIV) and Van Der Graaf external linear power supply are an innovative and affordable digital-decoding solution. The two, compact, half-rack enclosures are well constructed, solid, and attractive, and the layout is nicely implemented. The unit uses a PCM1795 DAC chip to convert digital bits to audio treats. Reviewer Matt Clott appreciated its honesty of tone and truth of texture. The Young MkIII with VDG power supply offers a sense of realism and dynamic scale that belies its price and diminutive size. MC found himself quoting one of his favorite lines from the blockbuster Broadway show Hamilton, "Immigrants, they get the job done!" (304)

## PrimaLuna EVO 100

## \$2999

With a sweet, accurate midrange and sturdy construction that should last a long time, this mid-priced tube DAC has a stout tube-rectified power supply for each channel. While



that's unusual for a DAC, it assures dynamic range will be wide and dynamic shifts lightning-fast. Perhaps the EVO 100 is missing the very deepest lows and highest highs, but there's not much else to quibble about. (300)

## Bryston BDA-3.14

## \$4195

The goal of the BDA-3.14 was simple in theory, but more challenging in practice—to add a streaming function to the BDA-3 platform while retaining the same high sound quality as the BDA-3. Reviewer Steven Stone thinks Bryston's efforts were successful. The DAC section for the BDA-3.14 is built around a pair of AK4490 chips, just like that of the BDA-3. While BDA-3 is a fixed-level output device without any volume control, the BDA-3.14 volume control utilizes the volume adjustment feature built into the AK4490 DAC chip. And instead of building a server from scratch Bryston began with a Raspberry Pi 3 mini-computer as its Internet gateway device. Why a Pi? Because it works reliably and has excellent support from Pi. In short, the BDA-3.14 is a first-class component that could be the center of any high-performance digital-audio system. (309)



## Denafrips Terminator \$4498

Denafrips is best known for its own line of R-2R DACs, in which the Terminator currently sits



second from the top, eclipsed only by the Terminator Plus. The R-2R resistor ladders are discrete and contain about 500 0.005% precision resistors per channel for 26-bit resolution. The Terminator handles PCM format up to a sampling frequency of 384kHz and DSD up to 11.2MHz (DSD256) in native mode. Both RCA and balanced XLR analog outputs are provided. The analog voltage signal is output directly without a buffer or gain stage, which puts the responsibility on the matching preamp to provide adequate gain and drive signal. Sonically, expect a tonally neutral and dynamic presentation. A true reference and currently DO's favorite DAC. (316)



## Chord Hugo TT 2/Hugo M Scaler

## \$5495/\$4795

The new upgrade of the table-top version of Chord's enormously successful Hugo DAC improves on

the strengths of its predecessor. This DAC/headphone amplifier is built around distinctive FPGA-based digital filters that support extremely long tap-length filtering schemes, and can thereby make use of proprietary WTA (Watts Transient Aligned) filter algorithms. The Hugo TT 2 is different to and better than the original Hugo TT in every way. It is quieter, yields unmeasurable levels of noise, offers greater dynamic range, provides a different and better power supply, produces much more output power, and incorporates a markedly improved DAC section. In short, everything the Hugo TT could do, the Hugo TT 2 can do better. The Hugo M Scaler, which can be used in conjunction with any Chord DAC, is a ground-breaking product. Basically, the M Scaler is a very powerful digital upscaling device equipped with a >1M-tap digital audio filter. The M Scaler can accept virtually any digital audio file input regardless of resolution or sampling rate and will upscale the input data to either 705.6kHz or 768kHz levels. The Hugo TT 2 and Hugo M Scaler fit together like a sonic hand in a glove; once you hear them together, you won't ever want them to be apart. (295)



## PS Audio DirectStream \$5999

Sometimes it's good to start from scratch when designing a new component. That's what software guru Ted Smith did—he started from the premise that DSD

recordings sound good and built a DAC around that premise. Using a field programmable gate array (FPGA)—the digital equivalent of a blank slate—he created a DAC that converts all incoming PCM files to DSD128, then decodes them with a 24dB-per-octave low-pass filter (LPF) with far less harmful sonic impact than typical brickwall PCM filters. The transformer that's part of the LPF filter is also the output section, so there are no tubes or transistors to be seen (or heard). PS Audio's Paul McGowan heard a prototype, loved it, and agreed to build it. VF thought it was easily the best digital sound he'd heard, but the DAC needs lots—probably 500 hours—of break-in. Recently available is the PS Audio MQA Bridge Card for MQA-unfolding at \$899 (see Music Servers). (245, 278)

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## HIGH-END AUDIO BUYER'S GUIDE 2022



## Playback Designs Merlot

## \$6500

What propels the Merlot into the upper echelon of digital audio is an ability to bring clarity and resolution to images at the very lowest

levels. Music of any genre has a ripeness and an elastic-

ity and an acoustic openness. Sounding more like a digital/analog hybrid, Merlot is able to hang onto digital's obvious strengths—tonal neutrality, broad dynamics, and firmly resolved low frequencies—yet preserve the harmonics, air, and fluidity of a performance. Like all Playback gear it's based on an open architecture, uses no off-the-shelf components, and supports formats up to 24-bit/384kHz as well as DSD64, DSD128, and DSD256. Includes an excellent headphone amp. (279)

## Berkeley Audio Design Alpha DAC Series 3



\$10,995

Berkeley's Alpha DAC Series 3 attempts to bring much of the technology and performance of the company's vaunted Reference DAC 3 to a product less than half the Reference's price. The Alpha DAC has the characteristic Berkeley DNA—superb resolution of low-level detail, three-dimensional soundstaging with the ability to hear very fine timbral and spatial information at the back of the hall, dense tone color, and outstanding clarity that allows you to hear individual instruments within the whole. The Alpha 3 doesn't have quite the world-class performance of the Berkeley Reference Series 3 DAC, but it comes closer than you'd expect for less than half the price (320)

## dCS Bartók

## \$16,000 (\$18,500 with Class A headphone amp)

The replacement for the vaunted Debussy DAC, Bartók

adds streaming network capability to its entry-level DAC. It also sports the latest dCS Digital Processing Platform and Ring DAC technology, originally developed for the Rossini series. Capabilities include streaming over Ethernet from a NAS drive, or from online music services such as Tidal or Qobuz, or via AirPlay, as well as full MQA decoding and rendering, plus a much-improved interface and app. Bartók also does the unthinkable: It accomplishes for digital playback what was once the exclusive province of analog playback. That is, it makes you want to listen, and listen, and listen, establishing the same visceral and addictive connection that analog does. It's like witnessing a recording from inside the microphone capsule with no losses from opening transient to the last gasp of acoustic decay. Outweighing any single benchmark, Bartók has a profusion of harmonic body and presence that calls to mind the finest LP playback. You may not ever miss the sound of vinyl again. (300)

## Brinkmann Audio Nyquist Mk II

## \$17,990

Brinkmann may be best known for its 35-year track record of making exceptional turntables, but its new Nyquist DAC immediately establishes the company as a major contributor to first-rank digital playback. The Nyquist is brimming with advanced features, including MQA decoding, high-speed DSD support, Roon-ready operation, UPnP connectivity, and upgradeable digital circuitry. Yet for all of its cutting-edge digital prowess, the Nyquist's output stage is built around that most ancient and venerable of audio technologies, the vacuum tube. This marriage produces a sound that is very "non-digital," embodying all the qualities that analog is famous for-dimensionality, treble smoothness, bloom, timbral puritybut coupled with digital's strengths of image solidity, pitch stability, and bass impact. The combination of analog-like warmth, bloom, and ease along with the state of the art in digital connectivity makes the Nyquist an extremely compelling package. (278/301)



## Berkeley Audio Design Alpha DAC Reference Series 3

## \$25,000

Although the new Reference Series 3 looks and operates just like the Series 1 and 2, this reference-quality DAC elevates what was already the finest sound quality extant to a new level. The gains in low-level resolution, ease, and spatial definition are marginal compared with its predecessors, but the Series 3 excels in dynamic impact, bass weight, and clarity, with a greater sense of dynamic openness. Note that the Alpha DAC lacks a USB input; you'll need Berkeley's \$1995 Alpha USB Noise Isolation Interface. (298)

## Ideon Audio Absolute

## \$34,900

That Ideon Audio's chief engineer Vasilis Tounos has launched a full-out assault on the state-off-the-digital-art is apparent the first time one picks the component up, or tries to: The CNC-machined aluminum chassis alone weighs close to 50 pounds. Ideon utilizes an ESS Sabre DAC chip with a 140dB dynamic range

and takes full advantage of this remarkable specification with a design that is more



than a little obsessive about keeping extraneous noise levels as low as possible. The result is a musical presentation with exceptional dynamic life and abundant musical detail. The use of a good preamp is mandatory. (311)





## **MSB Technologies** Reference

## \$39,500 (and up)

JV is an analog man and always will be. But when it comes to ones and zeroes, things have taken a rather dramatic turn for the better chez Valin since the arrival of the MSB Reference DAC and Reference transport. On physical media such as CD or SACD and on streaming sources, the Reference

DAC is the most realistic-sounding digital source-component JV has heard in his home, including the dCS stack he reviewed years ago. It is weird that this DAC has turned his head, since it doesn't do three-dimensional imaging and bloom near as well as record players do. And yet, on select cuts from select discs the thing has the colorless neutrality, speed, detail, presence, dynamic range, and delicacy that still make voices and instruments sound "real" enough to raise goosebumps. As a bonus, the Reference DAC renders and decodes MOA, is Roon-ready, and includes a built-in volume control that is absolutely superb, and that, at least with digital material, can be substituted for whatever preamp you're currently using. JV's reference. (290)



The PolyTable Signature is a new two-tier Energy Management Design model. The platter bearing and tonearm are located on a plinth isolated from the base. The Fluid Damped Motor System (damps torque impulse peaks) sits on its own isolated base. 16 HZ primary resonance. The motor is operated via the most advanced digital motor drive (DMD), affording total isolation from the ac line. Accuracy 3 parts per million. Accommodates up to 12 inch + tonearms.

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## Soulution 760

\$72,000

Coming from a company better known for its superb solid-state amps and preamps than for its digital source components, the Soulution 760 DAC was, for JV, the surprise of the 2020 audio season. Indeed, it turned out to be such a game-changer that if you listen only or primarily to ones and zeroes—he would be hard put to recommend anything else over it, regardless of price, and only the MSB Reference alongside it. Combining a world-class linestage (comparable to Soulution's own 725) with Leedh Processing volume control (the first DAC to use Gilles Milot's celebrated algorithm) and an ultra-wide bandwidth, ultra-low-distortion, ingeniously phase-corrected DAC, the 760 offers so much more of what JV likes and expects to hear from the best recorded music that it virtually lives in a class of its own. Here, finally, is the whole package—air, bloom, space, dimensionality, dynamic scale, electrifying transient response (on electrifying transients), fabulous low end, and (for once) equally fabulous treble. TAS' deserving 2020 DAC of the Year award-winner. (311)



## Wadax Atlantis Reference

## \$145,000

Although astronomically expensive, Wadax's 206-pound, three-chassis Atlantis Reference DAC is a cost-no-object exercise in what's possible in digital audio playback. The main chassis is actually three sections combined in an artful way, and is powered by two massive outboard power supplies. The Reference is packed with innovative circuitry that is realized with lavish execution. The sonic result is like nothing RH has heard from digital; the Reference DAC has tremendous dimensionality, stunningly realistic timbral rendering, exceptional transient performance, prodigious bass, and an overall presentation that is, by a significant margin, the state of the art in digital. (312)



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## Rotel CD14

### \$799

The CD14 doesn't try to be anything



other than a CD player. It uses a highly regarded Wolfson DAC chip, capable of sampling rates up to 192kHz; of course, as the sampling rate of CDs is 44.1kHz, the DAC's capability is overkill. The CD14 will also play MP3 files, but you'd need to burn those onto CDs first (there's no USB input to play them off a USB flash drive). Analog output is on unbalanced RCA jacks there's no balanced XLR out. The CD14 sounds good, though the bass lacks a little impact. (273)

## Arcam CDS50

## \$1320

Unimposing in its dimensions and weight, the Arcam CDS50 employs a SABRE 9038 Reference chipset for D-to-A conversion—up to 32-bit/192kHz for PCM sources as well as (DoP) DSD. The disc drawer is a slow-loading plastic affair that doesn't inspire confidence, but the player delivers gutsy electric bass/kick drum sound on well-engineered rock recordings. The soundstage presented is somewhat narrower than with competing (and more expensive) products. Downloading the iOS/Android MusicLife app to a phone or tablet gets one connected to several streaming services and to Internet radio. (300)



## Yamaha CD-S1000

## \$1799

Available for a decade and with its list price recently reduced by \$500, the CD-S1000 is something of a "senior citizen" among digital source components. There are no streaming or networking capabilities, but if all you need is silver-disc playback, this 33-pound, built-like-a-tank machine does the job very well. The player uses a pair of Burr-Brown PCM 1796 DACs to handle sample rates up to 192kHz and plays SACDs in their "native" DSD format. The disc drawer has a gearless mechanism in a steel/wood chassis and offers exceptionally smooth, quiet operation. There are both coaxial and optical digital outputs, so the CD-S1000 is an excellent candidate to serve as a transport with a high-end DAC. (300)



## Technics SL-G700-K

### \$2999

Meticulously constructed with four separate internal compartments to accommodate the power supply, digital, and analog circuits, and the die-cast aluminum disc drive, the Technics SL-G700 is designed with an eye towards minimizing both electronic interference and mechanical vibration. The DAC circuit features a dual-mono architecture with two AK4497 chips outputting "native" DSD up to 11.2MHz and PCM up to 384kHz. Ethernet, wireless, and Bluetooth connectivity are provided; the SL-G700 is also equipped for full MQA decoding. The player excelled at revealing subtle dynamic gradations, correct scaling of instruments, and image specificity and spatiality on good recordings. (300)



## **Bryston BCD-3**

## \$3995

In a world where CD players are fast becoming obsolete, the Bryston BCD-3 bows with a musical and sonic generosity that doesn't come along every day. The company's latest CD player represents a substantial upgrade over its lauded BCD-1 (there was no BCD-2). Enhancements include an entirely new transport and dual 32-bit AKM 4490 DAC chips. Compared to its predecessor, the BCD-3 offers far better channel separation, resulting not only in a wider soundstage but also more solid imaging. The new model also boasts a lower noise floor, so music emerges with greater purity, tangibility, and dynamic contrast. Thoughtfully, Bryston included a high-grade digital output. Thus, if outboard DACs evolve beyond the superb BDA-3-based module within the BCD-3, owners can utilize the Bryston as a pure transport. If you're considering buying one



last CD player—one that's future-proof and won't break the bank—the BCD-3 should top your list.

## Marantz SA-KI Ruby

## \$3999

The great audio designer Ken Ishiwata made his reputation with an exceptionally musi-



cal-sounding modification of an early Marantz CD player. The SA-KI represents his latest, possibly his last digital component and is his finest work, offering the best SACD and CD playback from a single unit that TAS's Paul Seydor has had in-house, and some of the best he's heard anywhere, period. Its outstanding onboard DAC can be used with a music server to stream and play downloads in every resolution commonly available, including native DSD up to 11.2MHz. Those in search of the proverbial "last" disc-spinner need look no further. (302)

## The Alpha DAC Series 3



Reference Level Performance Never Available Before At This Price



"The Alpha DAC Series 3 is a terrific bargain and an unqualified triumph."

Robert Harley

The Absolute Sound

*The Absolute Sound* October, 2021



You can think of the Alpha DAC Series 3 as a distillation of the Reference Series 3 in a less expensive implementation. The Alpha DAC Series 3 has superb resolution of low-level detail, three-dimensional soundstaging with the ability to hear very fine timbral and spatial information at the back of the hall, dense tone color, and outstanding clarity that allows you to hear individual instruments within the whole.

Robert Harley The Absolute Sound September, 2021

Berkeley Audio Design



## **CD/SACD PLAYERS**



## McIntosh Labs MCT500

## \$5000

The MCT500 SACD transport was introduced for audiophiles

who already own a McIntosh preamp, integrated amp, or receiver equipped with one of the company's proprietary DAC modules. It will handle virtually any 4.75-inch disc on the planet, including MQA (though only at Red Book resolution) and, of course, hybrid SACDs. With no built-in DAC, the MCT500 allows direct access to the DSD files on an SACD disc via a proprietary cable that can be connected only to other McIntosh products with the reciprocal MCT jack. It's thus impossible to speak of its sound because its sound is that of the partnering McIntosh component. As auditioned by PS with the C52 and C53 preamps, its reproduction is as good as he has experienced with any other SACD/CD players or DACs, bettered by none and equaled only by a very few. (315)

## **Aesthetix Romulus**

### \$8000

This all-tube CD player and DAC is one of the great bar-



gains in high-end audio. What makes the Romulus special is that it sounds so "non-digital." Rather than sounding flat and congealed, it opens up the spatial presentation, giving instruments and voices room to breathe. The Romulus couples this expansiveness with an unusual (for digital) sense of top-octave air and openness. The tonal balance is rich and warm in the bass, which, when added to its treble smoothness, results in an engaging and fatigue-free presentation. The Romulus doesn't sound "tubey" in the classic sense, but neither does it sound like solid-state. The design and build-quality are beyond what's expected at this price. If you have no analog sources, the Romulus can serve as a preamplifier and DAC with multiple digital inputs, provided you purchase the variable-output option (\$1000). Thanks to an innovative hybrid analog/digital volume control, there's no loss of resolution. (243)

## T+A MP 2000 R MKII

## \$9000

Not just a glorified music computer, T+A's R-Series MP 2000 MKII is more accurately a hybrid of CD transport and DAC with potent network-streaming-client capability. Thus, it accommodates most of today's digital sources, from discs to smart devices, USB thumb drives to outboard storage like a NAS, as well as Internet radio and music services such as Tidal. Significantly, the MP 2000 employs separate DSD and PCM signal paths for conversion of each type of signal—a rarity. Additionally, T+A engineers insisted on complete separation between the digital-signal-processing section and the analog



circuitry. CD and network playback are unerringly superb, with naturalistic timbres and harmonics, midrange bloom, and ripe bass resonance and control. Partnered with T+A's PA 2500 amp, the MP 2000 makes for a near-inseparable partnership, in which the two units complete each other's thoughts like identical twins. (275))

## HIGH-END AUDIO BUYER'S GUIDE **2022**

## MBL Cadenza C31

### \$9200

The Cadenza line from MBL may well be just about the most purely beautiful electronics on the market with sonics to match. However, in today's computer-driven marketplace, if you needed further proof that the CD player is alive and well, look no further than the C31. A slot-loading CD player at heart, it includes a high-performance DAC with inputs for USB, SPDIF, and TosLink. At times NG found himself giving the CD player a slight nod for superior image focus and the reproduction of low-level detail. But moving to 24-bit/96kHz material, he preferred USB hands-down. The classic MBL signature—the bloom and analog warmth that informs all its gear—is built into the C31's DNA. A fabulous two-fer. (228)

## Luxman D-10X

## \$16,495



Though reviewer Paul Seydor has no experience of the few other MQA disc players on the domestic market, it would amaze him if any of them offers quite the playback options of this top-of-the-line disc spinner-cum-DAC. Whether streaming, playing downloads, or spinning five-inch music discs, the D-10X will play virtually any audio-only two-channel or hybrid disc on the planet. While there are too many new features and aspects of its design and engineering to list, at its heart is the company's proprietary Lx DTM-I transport and ROHM Semiconductor's new BD34301EKV D/A converter (its maiden voyage in an audio component). USB inputs will handle PCM from 44.1kHz to 786kHz and DSD from 2.8MHz to 22.4MHz (1-bit). With outstanding build, engineering, performance, and functional and ergonomic characteristics, the 10X is unlikely to leave you hankering for anything more or better for a very long time to come. Though MQA discs are scarce on the domestic market, the 10X's superb handling of Red Book and higher PCM discs, not to mention SACD, and the equally fine onboard DAC, which can be used independently of the disc transport, still conjoin to make this player an attractive proposition despite the admittedly high ticket. Best of all is the Luxman "sound": supremely musical yet now with a degree of resolution, detail, and neutrality that will reveal without undue editorializing everything that is on any source you care to feed it. The D-10X is, if by only a slim margin, quite the finest all-in-one CD/SACD/DAC integrated with which PS any sort of long experience. (317)

## Metronome AQWO

## \$18,000 (tube version is \$20,000) French manufacturer Metronome has produced an outstanding top-loading CD/SACD player and DAC that can de-



code any PCM format up to 32 bits and 384kHz, as well as DSD. The player employs a D&M SACD mechanism with proprietary modifications, and one AK4497 DAC chip per channel. A Class A tube output stage (as auditioned) is optional. The AQWO distinguishes itself in three ways. First, the player is especially good dynamically, particularly when the signal is complex and high in level. Second, the treble is smooth, resulting in very natural timbre on strings, woodwinds, brass, and soprano voice. Third, the player infuses the music with air and life, with an exciting front-of-hall perspective. Overall, the AQWO is an outstanding multi-format disc player and DAC. (298)



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## Meridian 808v6

## \$20,000

This update to Meridian's flagship CD player/DAC incorporates several performance improvements, most notably decoding of

Master Quality Authenticated (MQA) files. Even when decoding conventional digital, the 808v6 is in the top echelon of digital playback, with a smooth tonal balance, superb dynamics, and absolutely rock-solid and extended bass. But feed it an MQA-encoded file and the 808v6 takes on a whole new life, with tremendous dimensionality, tangible air between images, utter liquidity of timbre, and more realistic transient reproduction. (263)

## T+A PDT 3100HV CD/SACD Transport

### \$22,500

This companion to the SDV3100 HV DAC/preamplifier is the state of the art in disc transports. Built from a massive machined-aluminum disc mechanism of T+A's own design, and under the control of T+A's proprietary software, the PDT3100 HV isn't another "me-too" transport based on an off-the-shelf mechanism of questionably longevity. This CD/SACD transport offers every conceivable type of digital output, including a proprietary signal connection to the DAC for improved performance. The SACD performance, in conjunction with the SDV 3100HV DAC/preamp (connected

via the proprietary digital link), is unmatched in RH's experience. The battleship build-quality, extensive features, fabulous casework, and beautiful fit 'n' finish suggest a product of twice the price. (301)



## dCS Rossini

## \$30,000 (\$26,000 without transport)

The Rossini may be the sweetest of sweet spots within the dCS lineup. All the technical goodies of the latest, far more expensive Vivaldi flagship are here in a single, gorgeous, easy-to-use chassis. The Rossini will play pretty much anything—either locally attached or streamed—other than a physical SACD. And it will play that material, regardless of source, with a rare combination of alacrity, refinement, and musicality. Compared to the entry-level Debussy, the Rossini is a huge step up in every way. Yet, upon direct comparison with the Vivaldi, it's clear that while the flagship is superior in several ways, the Rossini gets you most of the way there. Furthermore, dCS has made good on its promise of product longevity through continual software upgrades. Specifically, the Rossini recently received both Roon and MQA support, making it one of the best all-around CD player/DACs on the market. (285)



## CH Precision D1.5

## \$41,000-\$49,500 depending on configuration

Although a formidable CD/SACD transport/player in its own right, the D1 (now updated to the not-yet-reviewed D1.5) comes into its own when paired with the companion CH Precision C1 DAC/ Pre. The two communicate via the company's proprietary CH-Link, and once you hear the Link's open, natural sound, you will never go back to SPDIF. Furthermore, the CH-Link can carry raw DSD straight from an SACD to the C1. The combination of D1, C1, and CH-Link results in the best SACD sound AT has yet heard. In addition to serving as a transport, the D1 can be configured as a standalone digital player. In this capacity, the unit is excellent but more expensive than viable alternatives. Nor can one leverage the D1's raw DSD capability if not mating it to the C1. The bottom line is: Buy the D1 with the C1. (239)



## dCS Vivaldi Series 2.0

## \$124,000

The four-box Vivaldi is unquestionably the state of the art in functionality and technical sophistication, and is in the upper echelon of the best-sounding digital playback. This flagship from dCS incorporates technology unlike that of any other digital product, with all the key sub-systems designed and built by dCS using proprietary hardware and software. It sounds unlike other digital products as well, with a density of information, saturation of tone color, bottom-end authority, and highly spacious yet precisely rendered soundstage that outdo the competition. Although the complete system comprises four separate chassis, not all of them are required. The pairing of the Vivaldi Transport and Vivaldi DAC (\$77,998) will get you most of the way there. The Clock (\$16,499) and Upsampler (\$21,999) are nice additions, but not needed to realize the Vivaldi's extraordinary sound quality. Note that the Vivaldi is a highly sophisticated instrument that requires more user involvement than most digital sources. (268)





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## Roon 1.8 Music Management, Discovery, and Streaming Platform

## \$9.99/mo., billed annually; \$12.99/mo., billed monthly; \$699, lifetime subscription

For readers who are unfamiliar with Roon, it is an application that claims to be "the ultimate music player for music fanatics." Roon accomplishes this in several ways. First, it unites home libraries and streaming services libraries from Tidal, Qobuz, and Dropbox into one comprehensive, cohesive, and completely searchable library. Roon's latest version, 1.8, finally makes finding music, both in your home library and Roon's supported streaming services, almost as easy and intuitive as grabbing an album off the shelves. And while longtime users won't find radical changes in some of the basic layout, ergonomics, and playback methodology, they will, if they begin to



explore, discover that Roon now uses its vast troves of meta-data in a far more feature-rich manner that it happily shares with its users. (315)

## Muzo Cobblestone

## \$59

This inexpensive little device provides wireless streaming to any audio system. Although the Cobblestone won't be right for a reference system, it simply and inexpensively adds Internet radio, smartphone streaming, and NAS playback capabilities to a

secondary "lifestyle" or background music system. The Cobblestone produces listenable, if not riveting sound. The harmonic balance is a bit dark, with forgiving treble and a warmish upper bass. (268)



## SOtM sMS-200 Neo

## \$450

A very small device that plays PCM digital audio files up to 384/32 and DSD256. With a silver isosceles trapezoidal faceplate and a wall-wart power supply, the sMS-200 is just right for a space-limited digital audio player. It lets you store your audio files either on a network or an external USB drive. A software suite called Eunhasu give you lots of software playback options, including the popular Roon (but you need a Roon license). Additional power supplies are available (VF used the mBPS-d2s battery-powered supply). Output to the DAC is via a USB jack. The sMS-200 with Roon was very dynamic, with fully-fleshed-out harmonics and excellent momentum. For even better sound, if your space and budget are larger, you might consider

the sMS-200ultra and its matching sPS-500 power supply. The sMS-200ultra also has a matching sCLK-OCX10 master-clock generator which is said to improve the sound even more. (forthcoming)



## Bluesound Node 2i

## \$549

The Node 2i



from Bluesound, sister company to NAD, is a music server, streamer, and DAC that accesses most of the popular streaming services and Internet radio, as well as music files off hard drives and other musical content from a NAS drive, all sans computer, while offering full MQA unfolding and rendering to boot (but no DSD). Consistent with its NAD provenance, the Node 2i sounds really, really good—so far above its size and price that it almost makes you feel you've stolen something. Never once caught out or embarrassed by the far more expensive components in reviewer Paul Seydor's reference system, on many digital sources it often took the most concentrated and critical listening to distinguish it from its considerably higher-priced competition, even in direct A/B comparisons. (308)



## UpTone EtherREGEN

\$640

The EtherREGEN is unique among Ethernet switches in that it uses a circuit topology called the Active Differ-

ential Isolation Moat or ADIM that completely isolates the side of the switch (typically the "A" side) used for connecting network devices from the side connected to the renderer, network bridge, or streamer (typically the "B" side). The ADIM provides electrical, galvanic, and noise isolation between the two sides. The remarkable sonic improvements, says reviewer Steven Scharf, make for a breakthrough. At \$640, the UpTone EtherREGEN is one of the biggest value propositions in high-end audio. (311)

## PS Audio Bridge II Network Audio Card

An expansion card that plugs into a slot on the back of PS Audio's DirectStream DAC and turns the DAC into a complete digital audio file player. The addition of the card requires only a screwdriver, and should be within the capability of anyone who can mount a cartridge in a tonearm. The only input is an RJ45 jack for connection to a network for file storage and remote control. The Bridge II will play PCM files up to 192/32 and DSD128, and will downconvert higher-resolution files automatically. Fully decodes MQA files, Tidal (including Masters), Spotify, Qobuz, VTuner, and is Roon-ready (you still need a Roon license). The sound is essentially the sound of PS Audio's DirectStream DAC, which is generally regarded as one of the best at its price point, and competitive with some more expensive DACs. The Bridge II card, like the Direct-Stream DAC, can be upgraded using free downloads from PS Audio, so the sound just keeps getting better. (278)



## **○○○** Atlantis Reference Server



## Dial Up Connection...

It may all be "just ones and zeros!" but the elephant in the digital departure lounge is the simple fact that you can't send ones and zeros down a wire.

So how do you get the digital data that's stored in the audio files on your server, into your system? By converting it into a set of analog square waves. But the process of sending that analog signal over a network connection exposes it to induced error, multiple noise sources and RFI/EMI distortions – all of which are undetectable by the system and thus go uncorrected. Better then, to send it by the direct route, except that in most cases, that means using USB – and that means using off-the-shelf USB hardware and protocols, first to convert the data into analog form and then reconstruct it and convert it back when it reaches the DAC. Given the issues that

even high-end analog circuits have in accurately reproducing square waves, what chance does an off-the-shelf i/c have?

In designing the Atlantis Reference Server, we quickly realized that standard notions of data integrity are inadequate for music replay: amplitude, timing errors, noise-floor and initial transient points are all critical to musical performance – and need to extend beyond storage and into the realm of transfer functionality. Rejecting existing solutions, we developed our proprietary Digital Feedforward Waveform Control (DFWC) to optimize USB transmission. A set of three rotary knobs - Input Gain, Speed and Output Gain - allow users to add corrective analog compensation to the square wave signal, without altering its bit-content, solving the problem before it occurs rather than trying to fix it after the fact!

The musical impact is as profound as it is easy to appreciate, while users who also own the Atlantis Reference DAC can take advantage of our

> proprietary Akasa optical interface to raise musical performances to a completely new level. Together, the Akasa and DFWC technologies deliver unprecedented data encoding and transfer, your music like you've never heard it before.



## Dial up your server connection: Streamed sources will never be the same again!

## **US Dealers:**

Sunny Components CA 91724 626-966-6259 sunnyaudiovideo.com liquidhifi.com

Liquid Hi-Fi SC 29707

Bending Wave FL 33324 704-953-6034 954-579-7463 bendingwaveusa.com suprahifi.com

Supra Hi-Fi TX 75042 972-754-8359

Goodwin's MA 02451 781-893-9000

## CANADA Distributor: American Sound of

Canada L4E 3M7 1-905-773-7810 goodwinshighend.com americansound.com

## MUSIC SERVERS & PERIPHERAL PRODUCTS

## GeerFab Audio D.BOB Digital BreakOut Box

### \$999

GeerFab's D.BOB device promises to allow you to use the DAC of your choice with a



Blu-ray, SACD, CD, CDR, or virtually any recognized-by-your-player silver or golden disc, as long as your disc player has an HDMI output. Adding the D.BOB to your system is relatively simple, Merely connect your player's HDMI output to the D.BOB's HDMI input, and then connect the D.BOB's SPDIF or TosLink output to your DAC. The D.BOB is capable of handling up to PCM 192/24 and DSD64. If you have a large collection of high-resolution discs, the D.BOB gives you a future-proof way to continue to enjoy them into the foreseeable future. (309)



## Berkeley Audio Design Alpha USB Noise Isolation Interface

## \$1995

The folks who brought us the amazing Alpha and Reference DACs have solved the problem of how

to get high-resolution audio out of a computer or music server with the highest possible quality. The Alpha USB is a sophisticated solution to an apparently simple problem: how to connect a DAC to a computer's USB output. The Alpha USB connects to your computer's USB port, outputting a coaxial signal (on BNC jack) or AES/EBU (on an XLR jack) so that you can drive a DAC. The Alpha USB's sonic magic is the result of heroic measures to isolate the "dirty" USB signal from the "clean" SPDIF or AES/EBU output, and the precise, low-jitter clocking of the digital-audio output. The sonic result is state-of-the-art playback of standard-resolution and high-resolution files, exceeding the performance of even the best soundcards. (214)

## Aurender N100H

## \$2700 w/2TB

Aurender's N100H brings you a surprising amount of the technology, sound quality, and outstanding user experience of the flagship W20SE for a fraction of the price.



You don't get features such as dual-wire AES and clock input,

but most users don't need those capabilities anyway. The internal storage is 2TB, and you can add a NAS drive for more capacity. What you do get is the same outstanding Conductor app, Tidal and Qobuz integration, and Remote Support. Aurender's Conductor app for iPad is fast, visually appealing, stable, intuitive, capable, and uncluttered, with features that have been clearly refined through actual use. Sonically, the N100H comes pretty close to the W20SE's state-of-the-art performance, particularly considering the cost differential. (258)



## Lumin A1/T2

## \$4500

For those looking to quit the computer, there's the Lumin A1. Capable of pulling audio media from most external

digital sources—and (ideally) over a network with a NAS—the A1 is equipped with dual-mono Wolfson DACs that can play back a multitude of formats, up to and including 32-bit/384kHz PCM/DXD and standard DSD. Operating wirelessly through its own terrific iPad app, the A1 releases all the reins of tension, dryness, and constriction that accompany most digital recordings, adding the warm, weighty presence and velvety textures that are hallmarks of great analog. The L1, an external, preconfigured, 2TB storage HDD, is optional for \$1200. The newly introduced T2 is an updated version of the A1 (248)



## Cary Audio DMS-550

## \$5495

Anchored by superb sonics and wide-ranging connectivity, the DMS-550 is also one of the most format-friendly and un-finicky 'net audio players you're likely to find (at least for the next six months). Cary's third-generation player is fully operational for streaming or file playback, wireless or Ethernet. It's also MQA-equipped and Roon ready, thus even more sonically rewarding. With the latest AKM "Velvet Sound" chip, it plays back up to 32-bit/768kHz PCM, as well as native DSD up to 512. The sound of the player is full and warm, dynamic and quick, but never to the point of etch or grain. In short, a winner. Solidly constructed and reasonably priced, it includes an intuitive remote control, which makes navigation a snap (although the new controller app is even better). The large, bright, full-color front-panel display imparts loads of information, and is suitably legible from afar. (DMS-500 reviewed in 275)

## **Aurender ACS10**

## \$6000-\$7500

The Aurender ACS10 was created to be an almost-complete one-box solution. It's a standalone digital hub designed to interface with an external DAC via a USB connection. Merely add the USB-enabled DAC of your choice and you have an entire digital front end capable of doing virtually anything and everything a computer/NAS/streamer system can do and more. In essence, it is a dedicated audio computer, but unlike a general-purpose computer, this one has been optimized for music acquisition, playback, and storage. If your goal is to acquire a streamer that will deliver the highest possible level of sonic quality currently available from higher-resolution streaming sources, handle all the ripping and storage, and do it elegantly, you will be hard-pressed to find a better, more comprehensive option than the Aurender ACS10. (300)





## ATLAS MONO ECLIPSE HYBRID POWER AMP

"...delivers like few others on the promise of hybrid technology... seemingly unlimited power with a pristine transparency... truly deserving to be called Product of the Year."

-The Absolute Sound (January 2021) In a class of its own, the Aesthetix Atlas Mono Eclipse is a true zero-feedback hybrid amplifier. Atlas uses a single-stage vacuum tube voltage gain circuit to ensure the purity and integrity of your music signal. Meanwhile, three separate choke-input power supplies deliver the current you need to replicate a live performance.

Make an appointment with an Aesthetix dealer today for a musical immersion that only this level of innovation can deliver.



www.aesthetix.net



## Baetis Audio Revolution X3

## \$6200

The Revolution X3 is in the middle of Baetis Audio's product range, a compact component (131/4" wide) with plenty

of connectivity—proprietary SPDIF and AES/EBU outputs plus plenty of USB ports, one of which can be upgraded to an SOtM interface with or without a premium clock card. Supplied with the machine is a beefy Neutrik power cord, a substantial external power supply, 4TB of media storage, and—most critically—customer service that's second to none in the industry. New owners are scheduled for a block of one-on-one instruction to assure that their X3 has been configured according to their wishes and that they know how to use it. Unnecessary "bloatware" has been removed from the Windows OS to optimize sonic performance. (313)

## Playback Designs Syrah

## \$6500

The ideal partner to Playback Designs'



Merlot DAC, the Syrah is a pitch-perfect player armed with 2TB of hard-drive storage that accepts virtually any file format or native sample rate and supports DLNA streaming and services like Tidal from any AirPlay-supported device. Its app offers a series of well-organized, navigable menus including a wide range of settings and attractive readable graphics. Partnered with the Merlot DAC, the Syrah produces some of the most compellingly musical and elevated audio that NG has heard from a source component—digital or analog—in quite a while. If that's not worth raising a glass to and celebrating, then nothing is. (279)

## Linn Selekt DSM

## \$6825 (configurable)

The Select DSM is Linn's completely reworked network music streaming platform, sitting just above its entry Majik series. In its base configuration, it includes a preamplifier with an mc/mm phonostage, streams virtually any digital source, including Tidal, Qobuz, and Tuneln, and uses Linn's native room-correction software, Space Optimisation. Options include internal stereo amplification and an upgraded Katalyst DAC. The platform is sleek, sexy, and a pleasure to interact with via the six programmable smart buttons, the variably illuminated, top-mounted dial, or the 19-button remote. Creating a clean, incisive, and accurate sonic envelope, filled with dynamic contrast, expressive nuance, authentic tone



and texture, and expansive, accurate staging, especially when taken to the next level with Space Optimisation, the Selekt sets the bar in its price and category. (300)

## **Technics SU-R1**

### \$8999

The first member of Technics' new R1 system is a network player dubbed the SU-R1.



While it won't spin silver discs, it'll handle pretty much everything else. The SU-R1 is a streamer as well as an unusually comprehensive DAC. Streams of hi-res PCM or DSD files can emanate from either a LAN-connected NAS or a directly connected USB drive. Additional USB inputs provide support for PCs, Macs, and thumb drives. The SU-R1 even sports two sets of analog inputs. Inside the SU-R1 lies its share of the tech that Technics has lavished on the entire R1 series. The clock is battery-powered, which shields this critically sensitive element from AC line noise. Because the degree and nature of jitter differs by input, Technics built a specific jitter-reduction circuit for each source. The USB module is graced with an expensive ruby mica capacitor. Plus, there's a Direct mode that bypasses everything but the bare minimum circuitry. Engaging this mode results in an immediate and distinct uptick in transparency. The sound is direct and pure. There's nothing to obscure your ability to dive into the music like an inviting pool on a summer day. (265)

## Fidata HFAS1-XS20U

### \$10,000

The Fidata HFAS1-XS20U is a network audio server (NAS) from I-O Data Devices intended to be used in conjunction with DACs, network bridges, or streamers. In addition to file backup, it can transfer and store music files from computers, USB memory sticks, and hard drives. Approximately the size and shape of a small pizza box, the HFAS1's billet-aluminum chassis shields power and control circuitry from external RFI/EMI. The power and control circuitry are also internally shielded from its two 2TB solid-state drives, which use Fidata's X-Cluster configuration, further mitigating the impact of noise when streaming music. Used in conjunction with a network bridge or streamer/server, the HFAS1 allows the listener to hear very deeply into the presentation, undistracted by jitter and noise components that have historically plagued digital-music reproduction. Blessed with a vanishingly low noise floor, the Fidata is exceptionally quiet with a detailed, yet organic musical presentation and gorgeous decay of notes. (318)

## **Aurender N20**

## \$12,000

The Aurender N20 is the company's newest audio streamer, and slots in one position lower than its \$22,500, state-of-the-art W20SE. Beautifully built and finished, the N20 sports a large, gorgeous front display you can read from across the room. Frankly, reviewer Stephen Scharf was taken aback at how good the unit sounded straight out of the box streaming a file from Qobuz, and as it settled and burned-in over the next month it only got better, with greater transparency, resolution, and three-dimensionality. Moreover, music files from a NAS sounded better than the same files streamed from Qobuz-quieter, with a more natural, organic, and fleshed-out presentation. The N20 is clearly designed to "do no harm" to digital music files, and...mission accomplished. If you want a beautifully made audio streamer that supports on-board file storage, seamless integration with streaming services or a NAS, and is a veritable snap to set up, the N20 bears serious consideration. With well-mastered recordings, it consistently delivered some of the best-sounding digital music SSc has ever heard. (forthcoming)





#### **MUSIC SERVERS & PERIPHERAL PRODUCTS**

#### **Innuos Statement**

#### \$13,000

This meticulously crafted twounit server with external linear power supply can run Roon, Roon utilizing Squeezebox, or Squeezebox with your favorite UPnP software. It's built to withstand an Imperial ATAT



standing on it, designed to be placed on display in the MoMA, and engineered to sing at the MET, with a user interface that would delight Jony Ive. From a sonic perspective it checks every audiophile box. Layering and dynamics were unrestricted no matter the musical genre; and vocals were velvety and luxurious, but never high viscosity. Rock was passionately reproduced with snap, punch, rhythm, and texture. Small- and large-scale dynamic shifts were handled with ease. The Statement easily belongs with components at or twice its price. If you're in the market, you would be doing yourself a serious disservice by not placing it in your final list to consider. (306)



#### Lumin X1

#### \$13,990

After spending time with the X1, SS understood why Lumin is so proud of its flagship. The X1 serves as a streamer, DAC, and digital preamplifier with its own dedicated smartphone app (and Roon compatibility). It supports PCM formats up to 768/32 and DSD to 512 (with upsampling options for both PCM and DSD files). It also supports all the standard formats including FLAC, ALAC, WAV, DSD, DSF, AIFF, and MP3, and will unpack and decode MQA. Streaming protocols supported include Tidal, Roon, Spotify Connect, Qobuz, Apple Air-Play, and Tunein Internet radio. DLNA and UPnP compliance are also standard. In sum, the X1 does everything you would expect from a premium audiophile product—it looks cool, operates flawlessly, accepts firmware updates, and has its own app. It also performs as well sonically as any streamer/DAC/preamplifier SS has had in his clutches. (300)

#### **Aurender W20SE**

#### \$22,000

Aurender's newly revamped, top-of-the-line W20SE is one of the most feature-laden and capable turnkey music servers on the market. Load the W20SE's internal 4TB of solid-state memory with music, connect one of its many digital outputs to a DAC, link a tablet to your wireless network, and you've got virtually unlimited music. Seamless integration with streaming service Tidal and Qobuz greatly expands the W20SE's functionality, although Aurender doesn't support Roon music-management software. The W20SE's sound quality is outstanding, perhaps in part due to its 1TB internal cache memory, battery power supply for critical circuitry, and other performance-ori-

ented design tricks. Newly introduced upsampling, expanded DSD support, double-isolated LAN ports, and other upgrades in the SE model further improve performance. (W20 reviewed in 258, W20SE in 308)



#### Wadax Atlantis Music Server

#### \$22,500

The Atlantis Server delivers spectacular sound quality, offers outstanding capabilities, and features a wonderful user interface (Roon) in one well-built package. Designed and manufactured in Spain, the Atlantis is hardware and software upgradable, runs the Roon Core internally (no network-attached computer required), and offers 4TB of solid-state storage. Driving Wadax's Reference DAC, the Atlantis's sound quality was in a league of its own, with tremendous resolution, dimensionality, and timbral liquidity. (312)



#### Linn Klimax DSM/3

#### \$39,000

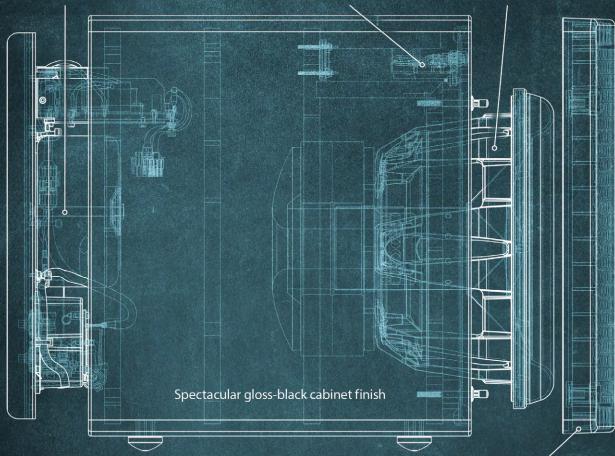
The Klimax DSM/3 is the latest and greatest streamer/DAC from audio engineering powerhouse Linn Audio. Sporting an array of digital input interfaces, the Klimax can wirelessly accept music files from Spotify Connect using Bluetooth or WiFi, and from AVRs, digital disc players, network bridges, music servers, and NASes via HDMI, AES/EBU, SPDIF, USB, or Ethernet. Superbly constructed with a solid aluminum chassis, backlit control knob, and stunning semi-reflective front display, the Klimax DSM/3 sounds as beautiful as it looks. The Klimax DSM/3 works with a number of music-server software applications, such as Linn's own Kazoo and MinimServer, but is used most seamlessly as a Roon endpoint. Exceedingly accurate, exquisitely detailed, yet natural, organic, and relaxed-sounding, the Klimax DSM/3 reveals all the subtle details, timbres, and textures hidden in your digital files, and makes audio magic of them. The icing on this delicious cake is Linn's proprietary Space Optimization software, which builds an acoustically perfect model of the room, allowing one to accurately hear the actual stereo image and soundstage on the recording, independent of room-induced acoustical anomalies. Truly remarkable. (forthcoming)



# Fathom® f113v2 Subwoofer

Massive 3000 Watt Switching Power Amplifier Sophisticated digital signal processing, including JL Audio's Digital Automatic Room Optimization System (D.A.R.O.)

Ultra-high excursion, JL Audio® 13W7-HT, our most potent subwoofer driver



Built in USA with Global Components



Net Weight: 133 lbs. (60 kg) Removable, Black Cloth Grille is included

2021
the absolute sound
EDITORS'
CHOICE
AWARDS

THE BENCHMARK

#### Rega Planar 1Plus

#### \$595 (includes Carbon cartridge)

It's notable that Rega's entry-level 'table today sells for roughly the same price it did some 20 years ago. That doesn't mean the Planar 1 performs at exactly the same level as the original Planar 2 or 3, but it does mean that Rega's commitment to value remains paramount. Perhaps even more remarkably, Rega is able to achieve this while keeping all manufacturing in the UK! Building on success, the P1 uses the classic Rega motor, drive system, and main bearing, but instead of a glass platter this one is made of MDF. The 'arm is the new RB101, which comes pre-mounted with a Carbon moving-magnet cartridge. You won't get much frequency extension or wide dynamics here, but what you will get is the pace, musical interplay, and involvement that make analog special. (171, 295)

## Pro-Ject Debut Carbon EVO \$599 The EVO is Pro-Ject's upgrade to its po

The EVO is Pro-Ject's upgrade to its popular entry-level deck, and it includes an improved motor suspension, height-ad-justable damped-metal feet, dampening material in the interior of the platter, and speed-changing at the flip of a switch. All this was added to an already attractive and quality package, which

features Pro-Ject's 8.6" carbon-fiber tonearm. The EVO feels premium and can be tweaked and upgraded for years to come. Rhythm and pace are spot on, and the low end has a pleasant heft. The midrange, particularly brass instruments, sounds tight and sparkles on higher notes. Overall, an attractive, simple, and great-sounding entry-level table. Highly recommended. (316)

#### Rega Planar 3

#### \$945 w/o cart, \$1145 w/Elys2

With a phenolic-resin "double brace" creating a "stressed beam" between the main-bearing hub tonearm mount, Rega's Planar 3 is a significant step forward. Thanks to a phenolic-resin skin and upgraded particulate core-material, the plinth is also lighter than its predecessor, while the new RB303 'arm features a newly

is also lighter than its predecessor, while the new RB303 'arm features a newly designed tube said to increase rigidity. The result is deeper bass, lower noise, more dynamic pop, increased detail, and improved staging. Things get better yet with the optional TT PSU power supply (\$375). (224)

#### Technics SL-1500C-K

#### \$1199

The Technics SL-1500C is a direct-drive turntable with a built-in phonostage. Its shiny aluminum top plate sits on a matte black

body of ABS mixed with fiberglass, which Technics says helps with rigidity. The tonearm is the same S-shape version found in the 1200 Series, with adjustable height and an extra counterweight for use with heavier cartridges and headshells. On the back is a switch to defeat the auto tonearm lift, two sets of RCAs, and a switch to change between the built-in phono preamp and the straight line output. Sound is absolutely fantastic for this price point, especially through a separate phonostage rather than the internal phono preamp. Rhythm and pacing are a dream, and bass dynamics really slam. Overall an absolute bargain and a pleasure to use. (308)

# ings get better yet

#### HIGH-END AUDIO BUYER'S GUIDE **2022**



#### Clearaudio Concept

#### \$1600 (\$1800 with Concept MM cartridge)

Clearaudio's Concept turntable and cartridge offer a hugely rewarding analog experience at a very attractive price. The sleek, belt-drive 'table and magnetic-bearing Concept 'arm, which the company calls "friction free," sell for \$1600; when bundled with the Concept MM cartridge, the pre-set-up package sells for a trim \$2000. And though the Concept's performance may not equal that of the very finest out there, its combined strengths in resolution, dynamics, lownoise, and sheer musical engagement won't leave you wanting. Couple this with terrific German build and finish, and the Concept is a hands-down bargain. (205)

#### Pro-Ject RPM 5 Carbon

#### \$1999 (includes Sumiko Amethyst factory mounted and aligned)



This isn't a plug-and-play deck—one that you stick on the shelf and forget about. (You could do that, of course, but this 'table was designed to be tweaked and upgraded.) It uses a minimalist plinth that hugs the edges of the big acrylic platter and tonearm board, cutting out anything that isn't necessary. The motor itself sits on a massive little stage and is entirely separate from the main platter's plinth. This decouples it, making for a much quieter ride. The main platter and plinth are pretty massive themselves, with tip-toe feet that can be adjusted in order to perfectly level everything. In sound, reviewer DK was both impressed and incredibly pleased. The Pro-Ject was at least a match for, if not better than, his own reference deck, and a clear and obvious step up from budget 'tables like the U-Turn or the Rega Planar 1. (295)

#### Rega Planar P6 with RB330 tonearm

\$1595 (\$1995 with pre-mounted Exact cartridge; \$2195 with pre-mounted Ania cartridge; \$2495 with pre-mounted Ania Pro cartridge)

The belt-driven unsuspended P6 doesn't deliver the ultimate punch, detail, or transporting emotional thrill of the very finest vinyl-playback equipment, but that's hardly the point or the design

goal. The point is that like all the best and longest-lived audio gear, the P6 compels you to play record after record, to revisit music you love, and explore music you have yet to discover. To say that the P6 sets a new standard for Rega 'tables at this price point is not damning with faint praise; it's high praise for what Rega has accomplished—and continues to. (313)



# The World's Best-Value Record Cleaning Machine Is Now Even Better



The 20<sup>th</sup> anniversary **Record Doctor VI** is the advanced audiophile-grade record cleaning system that will save both your vinyl collection and your budget. Hand-operated for maximum control, the new Record Doctor VI features some serious upgrades: quieter and cooler operation; stain-resistant machined aluminum top; large, comfortable turning knob for keeping the record label dry, and a newly designed deep-cleaning Clean Sweep fluid applicator brush. Just choose your cabinet color – gloss black, carbon-fiber vinyl, or gloss white.

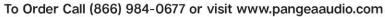
Record Doctor VI keeps your records clean with a cost so low it leaves more dollars for, well, more records!











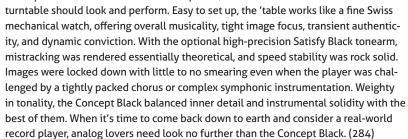
Grand Rapids, MI 49512 · 2021 © Pangea Audio Distributing, LLC



# Clearaudio Concept Black w/Satisfy Black tonearm

#### \$2000

Beautifully proportioned, light but not insubstantial, Concept Black is a model of how a mid-priced, belt-drive





# MoFi Electronics UltraDeck+ \$2299

When Mobile Fidelity decided to create a line of hardware they wisely brought in Allen Perkins of Spiral Groove to design the turntables, and they deliver a lot

of bang for the buck. Setup is simple, especially with the "+" option that comes with the Japanese-made UltraTracker mm cartridge preinstalled at the Ann Arbor factory. The belt-driven 'table features an isolated AC synchronous motor, a hefty Delrin platter, and a constrained-layer-damped chassis with feet designed by Mike Latvis of HRS. Sonically, imaging, musicality, pitch stability, and presence emerged as strong themes. The UltraDeck is a smartly conceived and finely honed design that's already earning its place as an instant classic. (284)

#### Pro-Ject RPM 9 Carbon

\$2999 w/o cartridge, \$3499 with Sumiko Songbird High or Low output MC Cartridge

The RPM 9 Carbon is Pro-Ject's "tuner" special, with significant upgrades over the stock RPM 9.2. There's a new motor, a new DC-driven power supply that features an improved AC generator for



speed stability, and a newly upgraded platter and carbon-wrapped chassis. Sonics are devilishly good. Backgrounds are jet-black with timbres softly tinted to the warmer end of the tonal spectrum. Arpeggios are liquid and articulate, and there is an impressive sense of air and lift in the upper octaves. With the RPM 9 Carbon's overarching sense of balance across all sonic criteria, LPs sound elegantly composed and wellnigh effortless. Without qualification, this is a terrific package, certain to give a great many lucky owners years of vinyl-spinning thrills. (254)



#### Rega Planar 8 \$3095 (\$3695 w/Ania; \$3995 w/Ania Pro; \$4395 w/Apheta3 MC cartridge)

An example of the recent, rapid evolution of Rega's designs, the RP8 is a "skeletal" design, which includes not just the shape but also the material of the plinth—a sandwich of phenolic resin skins over a core fabricated

from "featherweight, nitrogen expanded, closed-cell polyolefin." A three-piece, "super flywheel" platter made of float glass and the newly fashioned RB808 'arm are also found in this (for now) top model. The sound of the RP8 brings new levels of transparency, fine detail, soundstage definition, and drive to the always engaging—now more so—Rega sound, along with a tonal richness, weight, and dynamic thrust that we've never before experienced from any Rega design. In the past, one often qualified a Rega recommendation as "good for the money." The RP8 is simply one of the best mid-priced designs on the market. (234)



#### **EAT C-Sharp**

# \$3595 (\$3995 with Ortofon Black Quintet cartridge)

The combination of the C-Sharp and the Ortofon Quintet Black cartridge produced appealing sound that had rhythmic drive and made nearly everything reviewer AJ spun fun to listen to. The combo simply played the music on nearly everything he threw at it. Although the EAT lacked the ultimate resolution and neutrality of pricier analog front-ends, AJ still found its "sins" of omission more than acceptable. Indeed, he found himself spending more time listening to complete albums during the review period than what he'd originally allocated for the evaluation. (254)



#### Clearaudio Performance DC Wood

#### \$3600 (\$5800 with Tracer tonearm)

This belt-driven turntable with aluminum/Baltic-birch plinth and ceramic bearing took the listening experience to another level-more fully maximizing their playback potential across key criteria and in many cases extracting and revealing information or details that she'd hadn't previously heard. What stood out most consistently was a sense of sonic nimbleness and freedom combined with a smooth and steady effortlessness that could well be attributed to the "floating" magnetic-platter design and the lesser number of mechanical parts in the ceramic bearing. Another key difference was the DC Wood's quiet operation—a lowering of noise that carried over through the rest of the system, allowing the proper dark backdrop for full sonic landscapes to unfold. An outstanding, even addictive, analog setup that should be on any LP lover's short list. (297)





#### Dr. Feickert Volare

#### \$3795 (includes Origin Live Silver MKIV tonearm)

Derived from Dr. Feickert's flagship Woodpecker, Volare is an unsuspended belt-driven design that has the essentials down pat, possessing a musicality, stability and solidity that few LP rigs in the \$3k ranks can match. Setup was a snap; it operated silently and achieved platter velocity swiftly. Pitch and image stability were rock-solid. The Volare was unwaveringly stable, reproducing soundstage and dimensional cues and venue ambience in ways that reminded NG of many top-tier rigs. On occasion some acoustic feedback was noted, so a good isolation base is recommended. Volare includes a premium, heavy, well-balanced aluminum platter coupled with a high-torque motor. Fit and finish are superb. (301)



#### Technics SL-1200G

This turntable, which shares the historic name and appearance of the long-running SL-1200 series but is in fact a new design, offers performance at the very highest level, belying its relatively modest price. (The included 'arm is

acceptable but is not quite at the same pinnacle.) Its silence and speed stability are competitive with any turntable available and are far superior to most, even very high-priced ones. The turntable's sound is rock solid, very pure, highly resolved, and very lively in the positive sense. One has very much the sensation of hearing what is actually on the record. The Technics is not the only turntable in its price range (or lower) to have challenged the high-priced world, but it has an important feature offered by few of its high-end competitors at any price, namely, adjustable speed. This is a turntable for musicians and those who share musicians' sensibilities. (274)

#### Clearaudio Active

#### \$4600 (Smart Power 12V option, \$1200)

The Concept Active redefines what it means to be an affordable and accessible high-performance turntable in the here and now. Since it comes ready to go, you just plug it in and add vinyl. The Concept Active includes a tonearm and cartridge, of course. But crucially there's also a top-notch built-in phonostage with headphone input and volume control. While Concept Active performed terrifically in a full system, it's hard to downplay the musicality and pure simplicity of listening to it through a good set of headphones, fed directly from the phonostage. What was unexpected was how little resolution the "entry-level" Concept Active gave up in comparison to far more elite rigs. Adding the optional, battery-based Smart Power 12VDC power supply further improved image focus and transient clarity. Overall, the Active is a rarity in the high end: a triumph of performance, pricing, and packaging. (317)

## Dr. Feickert Woodpecker

The gorgeous-looking Woodpecker 'table with black-anodized brushed-aluminum top and bottom plates, a high-gloss piano-black main body (rosewood as a \$500 optional finish), quick-re-



lease sliding-armboard system (capable of supporting 9"-12" tonearms), and High Inertia Platter is more than the sum of its appealing parts. Incorporating a host of purposeful updates, the Woodpecker proves itself capable of performance that is appropriate to good design execution. Using a 12" Jelco tonearm/Arché headshell combination, the Woodpecker revealed the unique characteristics of the Ortofon Cadenza Bronze, Lyra Skala, and van den Hul Colibri cartridges. While it has a slightly higher noise floor than much more expensively executed designs, the Woodpecker proved itself to be a very capable platform for vinyl playback that should serve its owner far into the future. (244)



#### **Pro-Ject Xtension 10**

#### \$4999 without cartridge, \$5999 with Sumiko Starling low-output mc

Pro-Ject is onto something wonderful here: A turntable that hits all the right sonic notes, while providing a rare combination of intellectual and emotional connection to the music. A slightly scaled-down edition of the Xtension 12, the 10 offers a smaller footprint but similar weight. The design features a mass-loaded, magnetically floated subchassis, a 3"-tall, 12.6-pound vinyl/alloy platter, a precision ceramic bearing, and a three-speed AC motor. Regardless of cartridge, the Xtension 10 provides not only a high level of musical satisfaction, but does so in a way that delivers a powerful emotional wallop. (242)



#### Rega Planar 10

#### \$5695/\$6695 with Rega Apheta 3 mc cartridge

The Planar 10 is latest top model in Rega's legendary line of turntables. Eschewing traditional mass loading, the P10 uses a very stiff, light, skeletal plinth supporting a ceramic platter and Rega's latest RB3000 tonearm. Braces tie platter and tonearm bearings into a unified stressed member to extract maximal information from the record grooves; an external power supply provides precise, accurate, and stable speed selections at a button press. With the pre-installed Rega Apheta 3 mc cartridge, resolution, tonal accuracy, textural refinement, and imaging are outstanding. Exceptionally neutral, the P10 imparts virtually no coloration of its own. Highly recommended. (317)

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#### Pear Audio Blue Kid Thomas

# \$5995 (packaged with Cornet 2 tonearm and external power supply, \$9995)

Based on the pedigree and designs of the late Tom Fletcher (of Nottingham Analogue fame), the Pear Audio Blue Kid Thomas is an advancement over Fletcher's older products. Pear Audio's goal with the Kid Thomas is "sonic harmony." In this case, every aspect of the Kid Thomas' design was tested, down to the smallest parts, in an effort to optimize performance. The act of merging art and craftsmanship with measurements and science allows this turntable package to become a subjectively quiet playback system that can reproduce music in a way that is similar to more expensive turntable systems. (263)

#### Clearaudio Ovation

#### \$6200 (\$8500 with Tracer tonearm)

Continuing the trend of bundling together ever more sophisticated turntables, 'arms, and cartridges into fine-sounding but relatively hassle-free combinations, Clearaudio recently



released what may be the most ambitious yet of such packages. Utilizing techniques found in the company's \$10,000 Innovation Wood—such as the light and exceptionally rigid Panzerholz wood-laminate plinth material, and optical speed-control—in a package with the elegant size and ease of setup found in the \$2000 Concept, the Ovation, with its magnetic-bearing Clarify 'arm and Talisman v2 Gold cartridge, is a terrific deal. It is very well balanced, with excellent detail that emerges from silent backgrounds, exceptional pitch stability, and sweet, extended highs—though not the powerhouse bottom-end found in the highest-end models. The Ovation nicely bridges the gap between high-end sound and real-world convenience. (216)

#### Yamaha GT-5000

#### \$7999

You might assume, in this day and age, that a Japanese manufacturer would opt for a digital source in its top component line—or, at the very least, a souped-up direct-drive turntable.

Not Yamaha, which was aiming for the truest (to life) sound possible. The result is the belt-driven GT-5000—belt drive being the smoother, more open, more continuous option. On top of this, Yamaha chose to equip its 'table with a straight (rather than an S-shaped) tonearm to reduce skating force. Beautifully simple to use, and elegant to look at, the GT-5000 is not simple in construction, consisting of nine layers for the aluminum arm tube, which is plated internally and externally with copper, then laminated with alternating layers of carbon fiber and glass fiber. Sonically, the turntable is smooth, large in scale, and sweet rather than digital-precise. It sailed through everything AM threw at it, big and small, from run-in groove to run-out. A turntable with soul. (308)

## Helius Alexia turntable and Omega Tonearm

The British firm Helius' Alexia turntable and Omega tonearm are available separately, but according to the US importer everyone who buys an Alexia buys an Omega, so they are listed here as an ensemble. They represent a combination of traditional and genuinely innovative thinking. A two-speed (33/45) belt drive, the Alexia features a novel suspension that is very compliant in the vertical dimension, completely fixed in the lateral, while an optical sensor below the platter that monitors the speed 120 times per second results in unusually effective speed accuracy and constancy. The Omega's bearing is a uniquely "tetrahedral" configuration that offers "both a captured design and minimal friction." Equally unique is the geometry whereby 92% of the record is tracked with less than one degree of error. Reviewer PS was impressed by the setup's extraordinary stability of pitch, wide dynamic window, and excellent tracking of inner grooves. Detail retrieval is spot-on, imaging and soundstaging precise, freedom from external disturbance superb. (311)

#### HIGH-END AUDIO BUYER'S GUIDE **2022**

#### Sota Cosmos Eclipse

#### \$9700 with vacuum

Compared with the open-chassis, suspensionless design of many contemporary models, the Cosmos Eclipse looks restrained and of a bygone era. Nonetheless, it combines attributes that NG finds indispensable—progressive vacuum hold-down, excellent acoustic-mechanical isolation, and a dampened subchassis that is essentially a suspended seismic platform that can endure a San Andreas temblor without a skip. Also available as an upgrade for current Cosmos owners, the Eclipse package comes with Sota's latest innovations, including a three-phase motor, a mag-lev platter, and a new electronics package with speed-control precision from Phoenix Engineering, plus various fine-tuning twists and tweaks. As NG discovered, the performance gains were nothing short of stunning. There's a new league of stability, toe-tapping pace, and profound low-level resolution. The fullest sense of a mu-



sical performance in three-dimensions now becomes eerily realistic. A classic from the past has become a classic reborn. (316)

#### **AMG Giro**

#### \$10,000 with 9W2 tonearm

Based on AMG's Viella, the less pricey Giro consists of a circular plinth with an offset platter. Both have been CNC-machined from aircraft-grade aluminum, and the Giro shares the Viella's bearing design: "a hydrodynamically lubricated radial 16mm axle with PFTE thrust pad and integral flywheel." The platter's high-mass stainless-steel machined pulley is paired to a precision Swiss-made DC motor, and the 9W2 tonearm uses the same unusual and highly effective dual-pivot bearing design of the Viella's 12J2. As with the 'table itself, the sleek black armtube is machined from aircraft-grade aluminum that's been anodized to reduce resonance. Low-noise is a key to the outstanding performance here, as this Giro combo pulls a tremendous amount of detail from the grooves. Recorded ambience, dynamic pop as well as nuance, plenty of low-end weight as well as power, and an extended, airy treble

offer enough of the illusionary "realness" to make us forget about the gear and become immersed in the beauty of the music. (274)





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#### Clearaudio Innovation Wood

#### \$11,000

The dual-plinthed Innovation Wood combines some stunning new innovations along with Clearaudio's ceramic-magnetic bearing (CMB) technology



that floats the platter, and lightweight yet extremely dense Panzerholz to damp resonances and improve isolation. It uses a massive stainless-steel subplatter derived from the Clearaudio Statement, which when coupled with a new DC motor with optical speed-control, results in superb speed accuracy. JH has not heard any belt-driven 'table, even those with external speed controllers, best the Innovation Wood in this critical area. Solo instruments and voices have such rock-solid pitch stability that you'll swear you are listening to a direct-drive 'table without the motor noise. Music emerges from a black background and has outstanding soundstaging and ambience retrieval when the 'table is mated with a first-rate 'arm and cartridge. This is a terrific analog front end of near-reference quality that raises the bar on what an \$11,000 'table can do. (204)

#### Merrill-Williams R.E.A.L. 101.3

#### \$12,995 (includes clamping system)

Analog innovator George Merrill's turntable, designed in collaboration with Robert Williams, breaks ground in its

approach to energy management, ingeniously and effectively damping and dissipating resonances wherever they lurk. Music emerges with such exceedingly low coloration and distortion that transparency, fine detail retrieval, openness, and clarity are surprisingly close to what one experiences when listening to mastertapes. The motor, platter, spindle/bearing, and tonearm are effectively isolated, and the energy developed by each part is absorbed and dissipated by the 14-pound rubber-compound elastomer forming the core of the plinth. It supports virtually all types of 'arms, and comes with an advanced speed controller and optional clamp and periphery ring. The MW-101 turntable system should be a revelation to those who want to get closer to the sound of a live performance without breaking the bank. (225)

## SME Model 12A Turntable with 309 Tonearm

#### \$13,500

Replacing SME's previous entry-level Model 10A, which also came with the 309 tonearm, the Model 12A represents a substantial leap in performance over what was already an impressive ensemble. It evinces the typical SME house "sound": all but peerless neutrality, deep background blackness, and dynamic range second to none. A powerful new motor effectively banishes concerns over speed accuracy, stability, constancy, and timing, while its proprietary mat/ clamping arrangement rivals vacuum hold-down. Not only is the 12/309's sonic performance astonishingly close to that of the company's flagship models, it also receives the same standard-setting quality of build, parts, fit, and finish. Like the Model 10A, the 12A lacks the O-ring suspension-cum-damping of SME's higher-priced turntables, yet PS found its isolation from external disturbances impressive by any standard. The 12A may be the welterweight in the company's lineup, but it can certainly hold its own in the ring with the big boys. (306)

#### Brinkmann Audio Spyder

#### \$14,990 (10.5 tonearm, \$5990)

Eschewing an enclosed plinth in favor of an open chassis, the Spyder mounts the platter assembly's base on a cylindrical pillar. Additional cylindrical pillars support up to four tonearms as well as the outboard motor. The Spyder's sound is transparent, dynamic, low in perceived distortion, and with a fairly high degree of perceived neutrality. It exhibits a clarity without that etched quality that is sometimes



#### Brinkmann Audio Taurus

\$14,990 (\$19,990 package includes 10.5 tonearm; \$20,290 package includes 12.1 tonearm)

Reviewer AM has had some experience with other big, fancy, expensive turntables. Can he definitively tell you that any of them is better than the Taurus? No, he cannot. Can he say that the Taurus is the best turntable you can buy at any price? Come on. You know the answer to that. Of course, he can't. But the direct-drive Brinkmann manages to combine love and appreciation in a way that few can, and it's a clear step above the finest \$10k-\$20k 'tables he's heard, fully justifying its status as a reference. It's one of the few products he's reviewed about which he has no reservations. (313)



#### AMG Viella 12

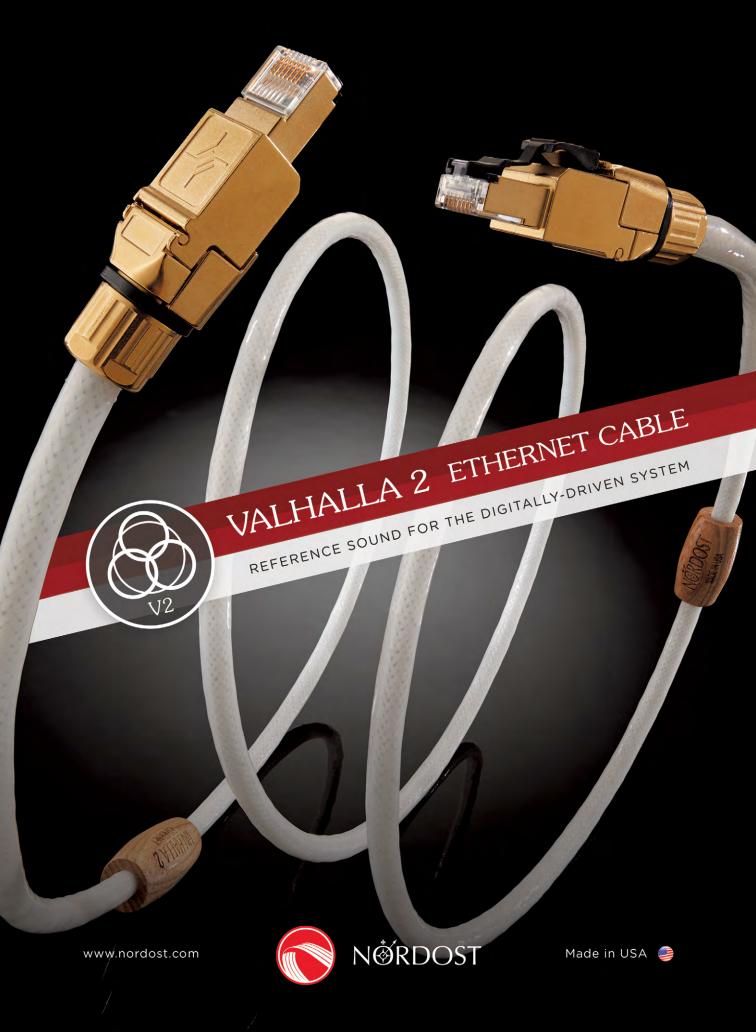
\$17,500 with cherry skirt, \$18,000 with black lacquer skirt (\$1500 for Reference tonearm cable)

Like the \$15k Raidho C-1.1 (or the now-discontinued

\$4k Ortofon MC A90), the beautifully machined Analog Manufaktur Germany Viella 12 is that relative rarity—a truly first-rate (and truly original) audio component that, while by no means cheap, is still within the financial reach of folks who aren't made out of money. The V12 may not (in fact, it does not) give you everything that a Walker, TW Acustic, or Acoustic Signature gives you, but what it does supply on select recordings—the extended sense that you are in the actual presence of real performers in a real space—is more than enough to earn the rave review it got and its place on this select list. A genuine marvel of engineering smarts and manufacturing finesse. (226)



mistaken for transparency or resolution. The Spyder is also well isolated from external disturbance, even when the music gets big, deep, and loud. Operationally this setup was a joy to use, its fit and finish of a caliber that spells "G-E-R-M-A-N" in all caps. In sum, here's a vinyl player of all-around excellence that should provide years of performance both pleasurable and trouble-free. (269)





#### Basis Audio 2200 Signature

\$18,410 with Vector 4 tonearm, reflex clamp, calibrator base, and cable isolation

Initially released some 15 years ago, this beautifully crafted and exceptional-sounding record player remains state-of-

the-art in its class. Which is doubly amazing given that its designer, Basis founder A.J. Conti, unexpectedly passed in 2016. His widow Jolanta's biggest challenge was finding a mechanical engineer who could maintain her late husband's obsessive quality standards. It took a while, but she found him in Alex Bourque, who, while developing some new products for Basis, continues to oversee manufacturing of the line A.J. developed. Essentially maintenance-free after initial setup, the 2200/Vector is across the board uncolored, transparent, coherent, and seemingly responsive to whatever frequency and dynamic information may be pressed into vinyl grooves. A superb classic. (317)

#### Technics SL-1000R

#### \$18,999

Technics, long the dominant manufacturer of direct-drive turntables, has now returned its original area



of renown with the SL-1000R. And it's a beauty. Simple in design but sophisticated in execution, the SL-1000R provides the virtues of direct-drive without its traditional drawbacks. There is no discernible noise transmitted from the motor to the platter. Instead, the SL-1000R has remarkable fidelity on transients, stopping and starting musical passages on a dime. This precision allows vocals, not to mention acoustic instruments, to come through with excellent tonal accuracy. This simple and elegant turntable makes a strong case for the virtues of direct-drive, one that advocates of belt-drive 'table will be hard-pressed to dismiss, let alone refute. (306)



#### **VPI Avenger Reference**

# \$20,500 (with either JMW or Gimbal Fat Boy 12-3D

VPI makes some great and highly affordable turntables like the Prime Scout, which costs \$2200 complete with a really

good VPI tonearm. The Avenger clearly outperforms the Prime Scout, but you pay a lot to get these improvements. Since its whole purpose is to do as little to the sound as possible, the 'table is a bit hard to assess. It is one thing to talk about subtle colorations; it is another to talk about a subtle lack of them. A high-end sandbox that lets the user experiment with any configuration he likes—ranging from multiple 'arms (both VPI and other brands) of any length, to different types of motors (belt-drive, rim-drive, magnetic rim-drive) and feet (Signature feet, Avenger Reference Feet, pneumatic air-suspension feet, or third-party feet)—it is a truly versatile and great-sounding choice for those who can also afford (or already own) a top cartridge and phonostage. (287)

#### Kuzma Stabi M

#### \$22,165

Built like a battleship—black on black in black, all metal in a baked-on matte finish—there's absolutely no obeisance to domesticity in Kuzma's Stabi M turntable, the look strictly



industrial. Brutally heavy, thick slabs of aluminum form the outer and inner chassis, with just enough elasticity between to allow for judicious damping without compromising rigidity. Yet in design and philosophy, this is very much a traditional turntable complete with hinged dust cover. The sound is superbly neutral, with very quiet backgrounds, and like all large, heavy turntables in PS's experience, it soundstages with exceptional stability and solidity. There's also a difficult-to-define sense of liveliness about the sonics that is definitely addictive. Ergonomics are unimprovable and operation is intuitively perfect. All in all, a superior platform for your vinyl treasures. (248)



# TechDAS Air Force III Premium

The belt-drive TechDAS turntable faces a crowd of competitors. What distinguishes it right off the bat is its build-quality. Nothing is left to chance with this turntable, which is crafted with impeccable precision from the platter down to the vacuum pump system. The result is a silky and continuous sound that makes listening to LPs a pleasure. Its pitch stability is beyond reproach, and it extracts a wealth of detail from the grooves. No, the Air Force III does not possess the gravity or weight or majesty of its higher-priced brethren, including the mighty TechDAS Air Force I that led to this effort. But it is definitely nonpareil in its class. (280)

#### TW Acustic **Black Knight** \$47,500 with TW

**Acustic Raven** 10.5" tonearm



Let's say-for the sake of argument, mind-that you don't have \$100k+ to spend on an Acoustic Signature Invictus or a Walker Black Diamond V. What's a body to do? Well, meet the TW Acustic Black Knight. No, the Black Knight doesn't take up the square footage of the humongous Invictus or the sizeable Walker (with pump). But at 143 pounds of Delrin-damped aluminum, copper, and bronze, this gorgeously made, beautifully engineered, three-motor (battery powered and regulated), single-belt-driven, unsuspended 'table is brick-solid—and (when equipped with its dual-pivot Raven 10.5 tonearm) comes a lot closer than shouting distance to the mastertape-like presentation of the Invictus or the Walker for about a third of its price. Thomas Woschnick (the TW of TW Acustic) has always made turntables with gorgeous tone color and decay. The Black Knight adds speed and pace to the formula, for a record player that offers the entire package from starting transient to stopping. One of JV's references. (274)



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#### Clearaudio Master **Innovation Wood**

#### \$55,500 (with Statement TT-1MI tonearm and black lacquer finish)

The key to great LP playback is lower noise (which equals higher fidelity). The trouble is that mechanical resonances transmitted from turntable, motor, and tonearm tend to

fight against this goal, adding distortion rather than subtracting it. Not so with the Clearaudio's Master Innovation Wood equipped with extremely low-mass, near-vestigial, carbon-fiber, linear-tracking TT-1MI tonearm. This brilliant Peter Suchy design not only effectively isolates the drive system from the platter (the main platter "floats" on a magnetic field above the drive platter, eliminating any points of physical contact—and thus any transmission of friction and noise); it also eliminates the inevitable tracking/ tracing error of pivoted 'arms via Suchy's equally brilliantly designed linear-tracking tonearm, which rides on tiny bearings, virtually friction-free, along a glass tube. The result is high among the lowest noise, highest-resolution analog signals JV has heard from a record player. The Clearaudio Master Innovation Wood delivers everything—energy, detail, body, tone color—and does so with an even-handed impartiality that makes that "gestalt shift" from hearing sonic "parts" to the shivery feeling that you're in the presence of virtual "wholes" (of real singers and instrumentalists) possible on any well-recorded LP. An engineering masterpiece and one of IV's references. (301)

#### **Basis Audio Inspiration**

#### \$70,950 (package includes Synchro-Wave Power Supply, Microthin Belt, and Vacuum System; \$90,200 (package plus SuperArm 9)

This remarkable turntable gets its name from Basis founder A.J. Conti's inspiration to bring many performance aspects of his \$175,000 Work of Art turntable to a more practical form factor and price. We haven't heard the Work of Art, but we can say that the Inspiration is a spectacular-sounding turntable with many special qualities that elevate the listening experience. Among these are an absolutely jetblack background, superb speed stability that contributes to realistic timbres, a vibrant dynamic rendering, and the uncanny impression of instruments hanging in space. The Inspiration is particularly adept at portraying air and bloom around instruments, as well as at resolving low-level information such as the tail ends of cymbal decays. It all adds up to a highly musical and involving presentation that is, surprisingly, considerably better than that of Basis' superb 2800 Signature. Supplied with Basis' Vector 4 VTA tonearm and Synchro-Wave Power Supply or optional SuperArm 9. (220)



#### Walker Audio Proscenium Black Diamond V \$110,000

The Walker Proscenium Black Diamond V air-bearing turntable/ tonearm transforms many of the smartest ideas from turntables past into a work of audio art that not only looks fantastic but sounds fantastic, too. And now, with Walker's new, improved, diamond-crystal-enhanced tonearm, revised multi-vented air-bearing, updated motor controller, greatly improved air-bearing feet, more effective clamp and damping fluid, and phenomenal new pump (which no longer needs regular maintenance and is remote-controllable, to boot) one of the two best phonographs JV has tested has taken a significant leap forward in overall sonic quality and ease of use. Gorgeous in tone color, extraordinary in resolution, superb on bass, and nonpareil in soundstaging, it has been one of JV's reference for more than a decade. If you're looking for the finest in LP playback, the Walker is still the one and only. (167, 226)



#### Acoustic Signature Invictus Jr. Neo

\$119,995 (\$147, 990 w/ TA-9000 tonearm)

A couple of years ago, Acoustic Signature introduced a behemoth turntable—the ultra-wide, ultra-deep, ultra-heavy, ultra-expensive Invictus. Quieter and more imperturbable than any analog front end JV had heard up until then, the Invictus sounded uncannily like a tape player. It was just smoother and, to use an HP phrase, more continuous in every sonic respect. Comes now a far smaller, more affordable, and, interestingly, more advanced version of the Invictus—the Invictus Jr., now upgraded to AS' Neo configuration. Designed over the last two years (the original was designed better than six years ago), the Jr. takes technological and sonic advantage of all that Acoustic Signature has learned in about half a decade of research. The result is in certain ways an even better record player (harder-hitting, higher resolution, even lower noise) for a lot less dough. As is the case with the Clearaudio Master Innovation Wood, if you want to hear singers and instrumentalists sound as if they are wholly "there" --- semblances of the

real things rather than collections of sonic parts (however beautiful or beguiling those parts may be)—this is the record player for you. Another one of IV's references, and TAS's 2018 Turntable of the Year. (297)



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#### Basis Audio A.J. Conti Transcendence Turntable and SuperArm 12.5

#### \$127,000

The Transcendence represents Basis Audio founder A.J. Conti's attempt to create a turntable that render LPs sonically indistinguishable from the analog mastertape that created the LP. In a departure from previous Basis turntables,



the Transcendence is made of stainless steel and various alloys rather than acrylic, and features an entire new suspension system. It is designed as a "forever platform," with the ability to accept up to four tonearms of any length and to have major components upgraded in the field. The Transcendence lives up to its design goal, sounding unlike any turntable RH has heard. What's most striking is how the Transcendence seems to vanish from the playback chain, fostering the impression of hearing back through to the mastertape. Timbres are astonishingly lifelike, with a solidity and tangibility that have eluded other 'tables. The ultra-quiet background and spectacular retrieval of low-level detail combine to render space, bloom, reverberation decay, and the tail end of cymbal strikes with hair-raising realism. The Transcendence also has an ease, particularly on loud and complex passages, that makes you completely forget that you're listening to an LP. When you discover newfound musical meaning in well-worn LPs as RH has, you know that the turntable is special. RH considers the Transcendence one of high-end audio's greatest achievements. Winner of TAS' Overall Product of the Year Award in 2019 (295)

#### TechDAS Air Force One Premium

#### \$145,000

As its price (and it has skyrocketed since our review) suggests, this new turntable from the distinguished Asian veteran-designer Hideaki Nishikawa is an all-out attempt to answer and exceed every aspect and parameter of turntable performance. An air bearing for the platter, air suction for the vacuum hold-down, and air bladders for the suspension system triangulate the nucleus of the AF1—the first to combine them in a single design. Special filters and sensors neutralize the ripple effect of pumps and prevent vinyl-damaging vacuum pressure. The sonic results are a background blackness and consequent dynamic range the like of which reviewer PS never before experienced with vinyl-which suggests that spurious resonances are banished and that no hint of feedback or other untoward environmental disturbances pierce the suspension. Paired with importer Bob Graham's latest 'arm, the AF1 is all around the best platform for vinyl playback with which PS has had long experience. (254)





#### **TechDAS Air Force** Zero

#### \$450,000

The Air Force Zero. a 700-pound+ beast devoted to spinning a vinyl platter as unobtrusively as possible, is an immensely impressive



creation, a tribute to the ingenuity and seriousness of purpose of its legendary designer, Hideaki Nishikawa. The massive air-bearing platter, composed of multiple layers of stainless steel, gun metal, and tungsten, makes the LP itself look positively diminutive. But the sound that this gorgeous belt-drive 'table produces is something altogether different. It can ramp up to dynamic fortissimos that will shake a room, whether the music is a Mahler symphony or a Led Zeppelin tune. But perhaps the most impressive aspect of the Zero is its refinement. There is a sense of ease to the proceedings, a blissfulness that transports it into a truly lofty realm that perhaps no other competitor can quite match. (312)











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#### Rega RB330

#### \$595

For decades, turntable manufacturers who didn't build their own



'arms frequently packaged their models with Rega's terrific-sounding and affordable RB300 tonearm. Musically compelling, with excellent balance and good detail, if not the final word in any one category, the improved RB330 is still a superb buy. (127)

#### **VPI JMW 12-3D**

#### \$2500

A 12" tonearm intended for the Avenger turntable, the 12-3D is VPI's newest 3D-printed design. It has a structure that is so well damped it has less than 1.5dB of resonance in the critical 9–12Hz range. The 3D-printed armtube takes its name from the additive manufacturing (or "3D printing") process used to produce



it, creating a single-piece structure from headshell to rear stub designed and made to provide a totally even mechanical resonance response. (285)

#### Helius Designs Omega Silver Ruby

#### \$5225, 10" (\$5295, 12")

Designer Geoffrey Owen has significantly advanced his tetrahedral bearing design, which uses twelve large rubies to produce a captured bearing with extremely low friction and single-point contact on all surfaces. This dynamically balanced 'arm with non-coincident bearings provides a very stable mechanical platform for a wide range of cartridges without adding its own coloration. While it is not the last word in ease of setup, and lacks adjustable VTA during play, the Omega Silver Ruby's ability to reproduce a rock-solid, precise, and complete soundstage, without truncating the rear of the stage, is reference quality. It has exceptional tonal neutrality and clarity across the sonic spectrum, with deep, dynamic, and articulate bass without bloat or overhang, and naturally extended highs without any stridency. (204)

#### Tri-Planar Mk VII

#### \$6200

Originally designed by Herb Papier, the Tri-Planar has been built under the well-trained leadership of Tri Mai for over a decade. (Tri was Papier's handpicked successor, and bought the company from his mentor before Papier's death.) And while it's hard to improve on greatness, Tri Mai's latest thoughts on this classic of tonearm design have, indeed, improved on Papier's



final version. While it was always well built, the Mk VII edition is better finished than ever before. Tolerances have been tightened from 0.001 to 0.0001 on all critical parts, and more environmentally-friendly materials are employed throughout: lead in the damping trough and headshell has been replaced by an alloy with similar weight and properties, and the brass counterweights have been changed to surgical-grade stainless-steel to increase longevity. In addition, the armtube has eight layers of internal damping, the new VTA-gauge is laser-etched (rather than silk-screened), and there's a new micro-weight at the rear of the counterweight mounting-tube. If earlier models were characterized by tremendous solidity, focus, dynamic agility, bottom-end reach, overall neutrality, and transparency to the source, then this 'arm has all that multiplied by many degrees. (191)



#### Basis Audio Vector Model 4

#### \$6400 (\$7600 with VTA micrometer)

Basis Audio's A.J. Conti has solved a fundamental problem with unipivot tonearms—dynamic azimuth error. (Azimuth is the perpendicular relationship between stylus and groove.) Rather than allowing the 'arm to "roll" when the cartridge encounters record warp, the Vector maintains perfect azimuth alignment via asymmetrical weighting, so that it "leans over" onto a second bearing. The result is an extremely neutral-sounding 'arm that RH has yet to hear mistrack. Although auditioned only on Basis 'tables (the 2200, 2800, and Inspiration), the Vector 4 is tonally neutral, dynamically alive, and rich in timbre. When playing records, the 'arm is perfectly silent, with no "talk" or "chatter" emanating from the tonearm itself. Beautifully built and finished, each Vector's pivoting mechanism is personally assembled. (172)

#### **Graham Phantom III**

#### \$7900, 9"; \$8300, 10"; \$8800, 12"

The Graham Phantom III is a "stable" unipivot design that is an advancement over earlier models (B-44, Phantom II, and Phantom II Supreme), using knowledge gained from the Phantom Elite design. The patented Magneglide magnetic stabilization bearing interface serves to give the Phantom its stable feeling when playing vinyl records. The 'arm is available with two mounting options (custom Graham or SME-type) and in three armwand lengths (9", 10", and 12"), which gives the end-user a variety of configuration options. All tonearm adjustment parameters are available: tracking force, VTA/SRA, anti-skate, azimuth, etc. The baseline performance of the Phantom III is fundamentally sound. There is a proportionate blend of resolution, detail, bass response, soundstaging, and imaging that creates a wholeness with music reproduction. (291)





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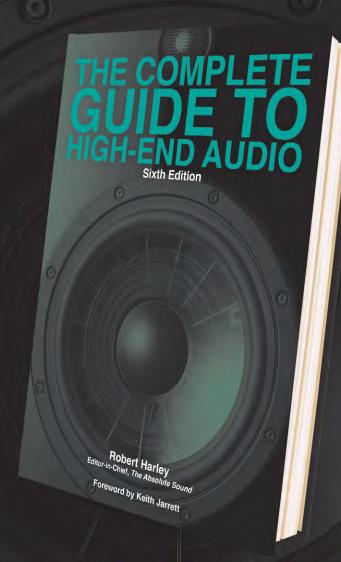
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#### **TONEARMS**

#### Kuzma 4Point

#### \$8400 (\$9853, bi-wire w/Cardas RCA box)

Like the Kuzma Airline straight-line-tracking air-bearing 'arm, to which it bears a strong sonic resemblance, the Kuzma 4Point pivoted tonearm is a veritable paragon of high resolution. An ingenious design that is immaculately well made and simple to install and adjust (VTA, VTF, azimuth, overhang, anti-skate), the



4Point uses a unique four-point bearing (thus, the name). A sonic vacuum cleaner when it comes to recovering low-level detail (some of which other great tonearms simply miss), the 4P is slightly leaner in balance than its chief competitors (such as the Walker Audio air-bearing, linear-tracking tonearm and the Da Vinci Master's Reference Virtu); nonetheless, the differences among them are relatively small. The bottom line here is that the Kuzma 4Point is an exceptional performer—almost unbelievably good for the dough—and easily earns JV's highest recommendation, particularly if you are a "fidelity to sources" kind of listener. (225)



#### **Graham Phantom Elite**

\$13,750, 9"; \$14,250, 10"; \$14,750, 12"

Although the basic design principles, thinking, and features of Bob Graham's classic Phantom unipivot tonearm remain unchanged, the Elite represents a substantial upgrade from previous iterations, with improvements in materials and implementation, constrained-layer

damping in the pivot assembly, and a new high-density, non-magnetic tungsten insert for zero-tolerance bearing-contact and high spurious energy absorption. The removable 'arm wands—9-, 10-, and 12-inch lengths account for the price range—are larger in diameter with more rigid, damped titanium tubes. A new alignment gauge, decoupled counterweight, 'arm wiring, and interconnect complete the redesign. The Elite is a true statement product in which you feel that every aspect of execution and performance has been thoroughly thought through and addressed. No other 'arm known to PS of any type can be more accurately, quickly, and repeatably adjusted to extract optimal performance from any suitable pickup than the Elite. Partner it with the Air Force One turntable, which Graham imports, and you get a record-playing system that is a tough one to surpass. (254)

#### Basis Audio Superarm 9

\$19,250 (12.5" version, \$28,500)

Although Basis Audio's Vector IV tonearm is outstanding, the company's Superarm 9 plays in an entirely different league. This 'arm's ultra-low resonance gives it a relaxed ease, particularly through the midrange. Instrumental timbres are



clean, liquid, and free from glare. One listen to vocals through the Superarm 9 and there's no going back. Fine details are vividly brought to life, particularly transients, giving the presentation greater density of information without added forwardness. The bass is phenomenal, combining great heft and weight with dynamic agility. A reference-quality tonearm. (264)

#### Swedish Analog Technologies CF 1-09

#### €48,000

The SAT CF 1-09 tonearm is, as the Brits like to say, a serious piece of kit. It's exquisitely fabricated by a process that includes grafting layers of carbon fiber upon each other to ensure a tonearm of great rigidity that is as impervious as possible to vibration. Marc Gomez, the designer of the tonearm, has gone to heroic lengths to ensure that the stylus can track the grooves of an LP with scant perturbation. The darned thing is simply so inert that it manages to excavate tiny nuances and details that were previously obscured, as well as offer huge dynamic swings. There is nothing quite like hearing a full brass choir on a Verdi overture or Strauss tone poem the way the SAT can render it. Anyone seeking full-spectrum sound from his tonearm need look no further than Gomez's wizardry. Priced in euros to avoid exchange-rate fluctuations. (300)

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#### **Grado Prestige** Black3

Excellent tracking ability and a lush, transparent

presentation make this econo-Grado a no-brainer for blossoming audiophiles. With an especially rich, almost tactile midrange and a chocolaty warmth and fullness on the bottom, this pickup is easy to recommend to anyone who listens mostly to vocal and instrumental music of a traditional kind, whether classical, pop, jazz, or folk. Not for rock fans or head-bangers, it nevertheless has the kind of sound around which cults readily develop (and doubtless would if it were a lot more expensive). (284)

#### Ortofon 2M Red

The swansong design of Ortofon's former chief engineer Per Windfeld,



the entry-level 2M Red uses an elliptical-tipped stylus. Though a little dry in the treble and lacking the Ortofon Black's velvety finesse and harmonic finish, the 2M Red is still one sophisticated cartridge for the money. (182)



#### Audio Technica VM540ML and VM760SLC

\$249 and \$649

These two pickups

are grouped together because they are part of A-T's VM line and despite the price gap sound far more alike than different. Judged according to the highest standards, PS found they acquitted themselves astonishingly in every aspect of performance, including frequency response, tracking ability, transparency, and dynamic range. Their only tonal anomaly is a smooth, mild rise beginning at 5kHz to a maximum of 4-5dB at 11kHz-12kHz, which in the listening is remarkably benign and might even pass unnoticed in many systems (and is easily correctable with a treble tone control). Otherwise, both cartridges are neutral and extremely involving, proving moving magnets can come as close as moving coils to the absolute sound. Under really critical listening, the 760 suggests subtly better dynamics, detail, and nuance, and it is now one of PS's references. But

both these models are real giant-slayers: spend little, get lots-but lots-in return. (284)



#### **Grado Opus3**

\$275 (both high- and low-output versions) Grado's entry-level offer-

ing in its new Timbre Series was a little like going home again to a pre-digital age. With its midrange tonal richness, unvarnished musicality, and warmer overall signature, this was classic Grado. There were still notes of dark chocolate in its voicing-a complex, bittersweetness, which favors highly resonant wood instruments like cello and acoustic bass and winds like clarinet, oboe, and bassoon. The primary strength of the Opus3, however, is its way with timbral distinctions, its verdant naturalism, and its harmonic balance. Purely and simply, a celebration of LP playback. (313)

#### **Ortofon Quintet** Red

\$359

At just under three-hundred bucks, the Ouintet Red

(0.5mV) is on the lowest end of the price scale for moving-coil cartridges, but it doesn't sound like a cheapskate. Its transient speed and sure-footed tracking make it a slam-dunk for any thoughtful starter system. It lacks some resolution of micro-detail and tonal purity at the frequency extremes, yet retains the distinctive musicality that is the essence of LP playback. (244)

#### **Excel Sound** Corporation Hana SL

\$750

In a sea of \$10,000-ish super-cartridges, what's a vinyl-playing audiophile with discriminating tastes to do? For that matter, what's a sub-\$999-budgeted audiophile to do? The \$750 Hana SL is a cartridge that establishes a baseline of fundamental performance that any cartridge costing more coin should equal, without falling backwards in any area this cart provides. With the Hana SL, the user can rest assured the cartridge will support the next 'table/'arm upgrade. It represents the qualities any more costly cartridge should offer as a bare minimum—and that some don't. (270)

#### **Ortofon Ouintet Black**

The Quintet Series is a lineup of five low-to-mid-priced moving-coil cartridges that replaces the aging Rondo Series of mc's. At the top rung is the 0.3mV Quintet Black, which is given the royal treatment with niceties like neodymium magnets, a nude Shibata stylus, and a boron cantilever. Sonically, the Quintet Black displays a settled, even neutrality across the tonal spectrum with glimmers of midrange warmth. It has both a light touch and a commanding sense of control. Violin harmonics are fluid and airy, and low-level information is illuminated with greater precision than it is with the Quintet Black's moving-magnet cousin, the excellent 2M Black. (244)

## Clearaudio Maestro Ebony

\$1300

The successor to the

redoubtable Maestro Wood, the Maestro V2 Ebony sports a higher 4.2mV output. It uses an ultra-low-mass Micro HD stylus mounted to a solid boron cantilever and an overall assembly that's identical to those used on its upper-crust moving-coils. Tonally it hews straight down the richand-wide middle of the sonic spectrum. Its innate midrange energy and overall balance bring symphonic recordings to life unifying each section into the greater whole of the orchestra. Low-level detail is elegantly resolved. There's a lightness and speed in the way it reproduces transients. The Maestro Ebony has shed some of its predecessor's excess warmth for a more faithful and quicker sound. As musical as they come, the Maestro V2 Ebony should be required listening for mm and mc fans alike. (234)

# Lyra Delos

\$1995

According to the designers at Lyra, the problem with "conventional"



moving-coils is that optimal alignment occurs only with the cartridge at rest, i.e., not playing. As soon as a stylus hits the groove and tracking force is applied, that delicate balance is thrown off, compromising resolution, tracking ability,



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#### **PHONO CARTRIDGES**

and dynamic range. To solve this issue, the body of the Delos has an unusually shallow angle, and asymmetrically cut dampers on the suspension system. With the cartridge at rest and no tracking force applied, the shape of the asymmetrical dampers puts the signal coils and core into a more upright angle than the magnetic circuit. The resulting uniformity during playback improves dynamics, tracking, and resolution, and removes the guesswork associated with proper azimuth and VTF. An exceptionally quiet background is the most immediately striking aspect of this design. It is also very well balanced and notably coherent across the spectrum, tonally natural, texturally rich, and very quick of response. (206)



#### Clearaudio Charisma V2

\$2000

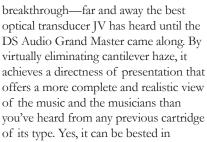
Clearaudio's literature describes the Charis-

ma V2 as founder Peter Suchy's "moving magnet masterpiece." It has tonal vibrancy and complexity, classic midrange heft and bloom, dynamic electricity, and top-end sweetness. Tracking is unshakable and effortless, and transient cues are reproduced with unalloyed naturalism. The Charisma also retrieves images like they're being monitored by LoJack. Premium features include the same boron cantilever and double-polished Gyger S stylus found in the Goldfinger Statement mc, with the motor housed in a mass-loaded ebony wood body for added resonance control. Output is a real world 3.6mV. Like its name implies, you've either got it or you haven't. This cartridge has got it. (284)

#### DS Audio DS 002

\$2250 (\$5500 with DS 002 phono equalizer)

The DS 002 is a



soundstaging; yes, it can be a little rougharound-the-edges at very high volumes; yes, it is dark-sounding; and, yes, it most certainly has a sensitive stylus that has to be kept clean and away from extraneous sources of vibration. But the DS 002's virtues are so strong, and its sound so unique and pleasing, it received JV's highest recommendation—with laurels and oak-leaf cluster. (274)



#### Ortofon Cadenza Bronze

#### \$2399

Orfoton's Cadenza Series replaces the Kontrapunkt line, but with a difference,

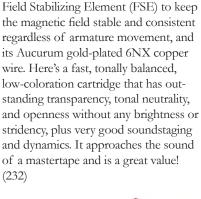
tailoring each model to cater to specific tastes in sound. One down from the top of the series, the Bronze is designed to have a slightly warmer, more romantic sound suited to classical music, acoustic jazz, voices, and so forth. And so it proved in PS's evaluation, though the tailoring is pretty subtle, which means that the Bronze is still very much an Ortofon as regards overall neutrality and other things, including transparency, tracking ability, dynamic range, resolution, and the like. If you almost love the peerless neutrality of the best Ortofons (such as PS' reference Windfeld) but want something just a tad richer, the Bronze might be just the ticket. For PS it's a pickup that boasts the highest neutrality of any transducer he's heard with a designed-in flavor and is one of his top recommendations in carts costing under \$2500. (232)

#### Ortofon MC Cadenza Black

#### \$2879

This standard-mount, low-output (0.3mV) moving-coil cart features a nude Shibata

stylus with a thin, stiff boron cantilever yielding an extremely low-mass stylus/ cantilever system for enhanced fine detail retrieval and tracking. The Cadenza Black brings a lot of the advanced technology found in Ortofon's more expensive carts, like the MC A95 and MC Anna, to a more affordable price, including its patented Wide-Range Damping (WRD), which effectively controls high- and low-frequency damping separately, its



#### Kiseki Purple **Heart NS**

\$3199

The "new" and most recent Kiseki



Purple Heart captures all the magic of the original—and then some. At the same time, the newest version is quite different from the original. While they both use boron cantilevers, the latest has a different mounting methodfor the diamond, and on the newest version the coils are wound from gold instead of OFC. The new Kiseki also uses an innovative method of winding the coils that is said to increase transient speed and frequency extension, while also eliminating any sense of harshness and sibilance. Kiseki in Japanese means "miracle" and it is a fitting name to associate with the Purple Heart NS. This moving-coil cartridge is relatively easy to drive, tracks everything thrown at it, has a relaxed yet detailed sound, and when mated with superb speakers puts the performers in the listening room. (306)

#### Miyajima Infinity Mono

\$3475

The Infinity rep-



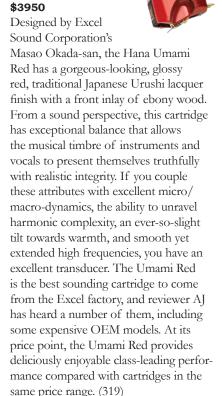
resents Miyajima's attempt to push the boundaries of mono reproduction one step beyond its previous flagship Zero cartridge. Its attempt has succeeded. The bulbous Infinity weighs in at some 6.4 grams, but the increase in size and weight from the more diminutive Zero do not in the slightest detract from its performance. Rather, they enhance it. The Infinity not only extracts more information from the grooves than the Zero, but is also smoother and more extended in the treble. For anyone interested in playing mono LPs, the Infinity is a must-audition. (309)



·RINARO ·

#### **PHONO CARTRIDGES**

### Hana Umami Red



#### Soundsmith Paua MkII ES/ Sussurro MkII ES



#### \$3999/\$4999

These two moving-iron cartridges from Soundsmith's Peter Ledermann are essentially identical save for their bodies and styli. The Sussurro uses a specially selected "Contact Line Nude, 0.100mm SQ stylus" and the Paua a somewhat less highly select nude contact line. Ledermann indicated that the Sussurro would be more revealing and the Paua slightly more forgiving and "musically natural." Our reviewer, AHC, liked them both but marginally preferred the Sussurro precisely because it was just a bit more revealing of micro-detail, subtle soundstage information, and ambience. "It was their consistent ability to get things musically right," said AHC of both cartridges, "and to get the most out of most LPs that impressed me." (219)

#### Sumiko **Palo Santos** Presentation \$4499



Celebration is Sumiko's elegant, flagship

moving-coil (0.5mV). Essentially midrange-neutral, its signature subtly veers to the full-blooded and warmer end of the spectrum, with just a hint of upper-treble shading. In order to appreciate its presence and conservatively tailored character, listening to pure, unamplified, acoustic music is a must. Only in minor ways does it leave some performance on the table, flagging ever so slightly in bottom-end resolving power or in imparting orchestral air and bloom. Still this beauty draws you into its naturalistic web and conveys complexities of timbre and space that are nothing short of authentic. (206)



#### Ortofon MC Windfeld Ti

#### \$5159

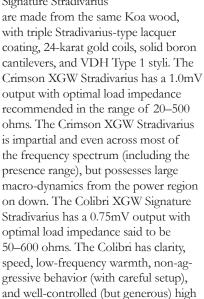
The Ortofon MC Windfeld Ti is the newest version

of the original MC Windfeld cartridge. The Ti's body structure is SLM (selective laser melted) titanium and stainless steel; its motor is similar to that of the MC A95. Sonically, the Ti allows the listener to play nearly every album in his catalog without being bothered by any sins of commission. This ability to play whatever, whenever, is the MC Windfeld Ti's biggest asset. (285)

#### Hul Crimson XGW Stradivarius/ Colibri XGW Signature Stradivarius

#### \$5495/\$11,995

The Crimson XGW Stradivarius and the Colibri XGW Signature Stradivarius

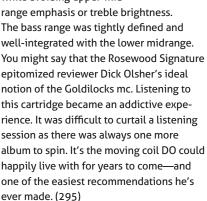


frequencies. The Koa-bodied Signature Stradivarius is even more dynamic (both micro and macro) and livelier sounding than the less expensive XGW Strad, has a larger soundstage, produces more powerful transients, is more propulsive, and produces greater clarity in the musical presentation. (279)

#### Koetsu Rosewood Signature

#### \$5495

It tracked well, and it sang with emotional intensity, while avoiding upper-mid-



#### DS Audio Master1/ Master1 Equalizer



#### \$7500/\$15,000

The optical cartridge with internal LED and photo sensors is a relatively new thing (though the idea of using light to read record grooves goes all the way back to the 1950s). That the folks at DS Audio are taking the perfection of this concept seriously is shown by the remarkable sonic progress they've made from the Nighthawk to the DS-002 to this, their new flagship transducer. The Master1 cartridge and Master1 equalizer are simply outstanding components, setting new benchmarks for vinyl playback in several areas (mechanical silence, neutral voicing, and midrange-to-midbass realism). Even where DS Audio's offerings aren't setting standards, they are now competitive with the finest coils and moving magnets. If IV were in the market for a new phono cartridge and he had the money, the Master1 system would be at the very top of his short list of must-hears. The most realistic-sounding new pickup he's heard in a decade. (306)



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#### Koetsu Rosewood Signature **Platinum**

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# Ortofon MC Anna

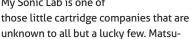
Neutrality, for which Ortofon cartridges have long been famous, is a tricky concept, in that one man's "neutral" is

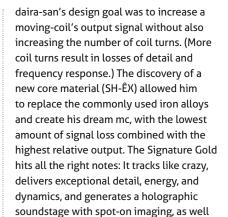
another's "analytical." The knock against Ortofons (other than their low output) has been precisely that: Their "neutral" balance is also, to some ears, cool, bright, and off-putting. Well, glory be, Ortofon must've been listening to some of its critics, because this top-tier mc, named after soprano Anna Netrebko, is anything but off-putting. Rich, warm, and beautiful in tone color, it mediates between "sounding good" and "sounding accurate/real" like no other Ortofon before it, making it the cartridge of choice for both Ortofon-lovers and Ortofon-detractors. One of JV's references. (233)

#### My Sonic Lab Signature Gold

\$8995

Founded in 2004 by Yoshio Matsudaira. My Sonic Lab is one of





as a great purity of tone and "you-are-

#### Lyra Etna Lambda

thereness." (317)

#### \$9995

The Etna offers the most winning set of attributes that Lyra has produced.

Vocals have a physicality and palpability that provide an unprecedented realism. The sense of snap and pacing is also exemplary. A silky continuity that eluded previous Lyra efforts is also abundantly apparent, partly a product of very quiet backgrounds. Careful matching with a phonostage will be necessary, especially in the case of the Super Low (SL) version, which outputs a mere 0.25mV. But this amazing cartridge will take most vinyl reproduction to a new level. (266)

#### Ortofon MC Anna Diamond

#### \$10,499

Three paramount virtues triangulate Ortofon's MC Anna Diamond phono pickup: phenomenal control, über-transparency, and unprecedented dynamic range. It exhibits an astonishing clarity, and its timing is absolutely impeccable. In concert with these qualities is a startling impression of precision, notably when it comes to imaging, soundstaging, and the rendering of whatever sense of location, venue, ambience, and acoustics the recording engineers have managed to capture. The tonal balance leans toward the "brilliant" side, with an emphasis on overtones. If you feel your vinyl playback could stand a bit of pizzazz, a jolt of electricity, a veil or three stripped away in the transparency department, and some rhythmic kick and

drive, the Anna MC Diamond might be just the tonic you need, albeit at a scarily stratospheric price. Whatever your preferences, rest assured in that all the other areas of pickup performance the Anna MC Diamond is state of the art. (320)

#### Air Tight PC-1 Supreme \$11,000

As good as the Air Tight PC-1 is, this considerably pricier moving-coil from AT is substantially better in every way. The original PC-1 used a new high-mu core and winding material said to have three times the saturation flux-density and initial permeability of conventional core materials. In plain English, its magnets produced a much stronger magnetic field, greatly lowering noise and coloration and greatly increasing resolution. The Supreme literally takes this low-internal-impedance/higher-magnetic-energy technology to a new level. Killer good on transients top to bottom, with phenomenal grip and definition in the low bass, the Supreme is also exceptionally lifelike in the midband, with even more of the gorgeous density of tone color, high resolution, and superior soundstaging that made the original PC-1 one of JV's mc references. Along with the Air Tight Opus 1 and the Goldfinger Statement, the Supreme is, in JV's opinion, one of the best mc's on the market. (190)

#### Lyra Atlas/Atlas SL Lambda

#### \$11,995/\$12,995

LP. (276, 284)

a top-end cartridge, Lyra offers not one but two versions of its signature Atlas. The first has 0.56mV output, the second 0.25mV. Which one to choose? The regular Atlas offers a bit more slam and sizzle than the super-low-output version. But the lower-output Atlas provides more finesse and a lower noise floor. Rock aficionados will probably gravitate to the regular Atlas, but for classical the higher-priced cartridge is probably the better match. Each features nonparallel walls to reduce nasty resonances, and their nude bodies make them fairly easy to install. Neither has the lushness of a Koetsu. But both are superlative cartridges that will provide a spellbinding presentation of well-nigh any





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Philadelphia, PA thevoicethatis.com

Analog Audio

Minneapolis, MN analog.audio Fern & Roby

Richmond, VA fernandroby.com

www.GracelineAudio.com

#### HiFiction X-quisite ST



tious about the exquisite character of the X-quisite cartridge, which is constructed in Switzerland with horological precision. Right off the bat, the translucency and transient accuracy of this 0.3mV moving coil are abundantly apparent. There may, in fact, be no other cartridge that quite manages to duplicate its lock on the transient note, a quality that provides a kind of window into the performer's intention that is difficult to forget. The X-quisite revels in disinterring previously obscured detail, but is in no way astringent. The finest shadings, the most delicate filigree, are presented with aplomb by the X-quisite. (317)

#### Air Tight Opus 1

#### \$15,000

Air Tight's top-line moving-coil cartridge adds even more resolution, dimensionality, and energy to the beautiful reproduction of tone color and superior soundstaging that the PC-1 Supreme is justly famous for. Though not quite the non-stop thrill-machine and sonic vacuum cleaner that the Clearaudio Goldfinger Statement is, the Opus has a smoother, better-behaved upper midrange and treble and (building on one of the strengths of the Supreme) phenomenally deep-reaching, superbly defined, extraordinarily quick and powerful bass. Ouite neutral in balance, it has much of the speed and resolution of über-cartridges, without any trace of the analytic. One of JV's references, and RH's reference. (261)

#### **DS Audio Grand** Master

\$15,000, cartridge; \$45,000, two-box equalizer

The DS Audio Grand

Master optical transducer comes closer to the sound of R2R tape than any other phono cartridge on the market. Yes, it is expensive, though you don't have to buy the dedicated Grand Master EQ units to get your sonic money's worth. (Any DS Audio EQ device will work with it-and there is a wide variety of them at a wide variety of price points, starting below \$2k.) Unlike every other phono cartridge

and phonostage on the market, the Grand Master and its EQ units are dead quiet—without a trace of the hum, buzz, RF, and self-noise that we've simply learned to live with with everything else. The elimination of the usual background racket, coupled to an optical system's inherently deeper and fuller presentation of the bass and lower midrange, rich, supremely detailed midband, and sweet, airy, ribbon-like treble, makes for the most "complete" and (given a great LP) most realistic reproduction of the music and musicians on LPs JV has yet heard. A Grand Masterpiece. (316)

#### Clearaudio Goldfinger Statement V2

\$16,000

The sweetest, most musical Clearaudio ever, the Goldfinger Statement V2 manages to sound ravishingly beautiful more like a Koetsu Blue Lace than a Goldfinger V3—without sacrificing any of the famous virtues of previous Clearaudios. It still has that incredibly expansive Clearaudio soundstage and, perhaps, the deepest-reaching, bestdefined, most powerful bass of any moving-coil JV has heard. When you add near-Ortofon-A90-level transient response and resolution to this package, you come close to achieving the unachievable—a transducer that will fully satisfy "accuracy," "absolute sound," and "musicality" listeners. At 0.9mV it has enough output to drive any phonostage. The class of world-class, and one of JV's references. (216)

#### **TAPE DECKS**

#### J-Corder Technics 1500

#### Starting at \$5995; \$7995 with enhanced Record/Playback Option

J-Corder offers beautiful cosmetic choices with completely rebuilt Technics prosumer reel-to-reel machines that not only preserve the Technics' original functionality but also bring those highly reliable decks back to their original specifications—and beyond with J-Corder performance options. Its \$2000 Record/ Play option significantly upgrades the electronics with higher-quality parts and a custom-calibrated, matching headblock to coax out another 8dB of recording headroom while significantly improving the deck's sonics. Whereas the J-Corder 1520 has switchable IEC equalization, other J-Corder models need the optional second playback head output married with external electronics to play prerecorded CCIR-compatible tapes, like those from The Tape Project. However, these decks are really designed for users to make incredible recordings of their favorite tracks. A great way to preserve your irreplaceable source material while it's still in pristine condition. (forthcoming)

#### SonoruS ATR10

\$19,500

SonoruS' Arian Jansen retains the classic chassis and time-tested transport mechanism of the vintage



Studer/Revox PR99 deck but completely updates the unit's tape-drive and tube (E88CC/6922) electronics. The result is a unit capable of playing back today's growing number of 15ips, two-track, CCIR-biased reel-to-reel tapes (from companies such as The Tape Project, Opus3, Yarlung, and Analogue Productions) with gorgeous mid-to-treble-range timbre and texture, simply spectacular wall-to-wall soundstage, and astonishingly three-dimensional imaging. What the ATR10 sounds like, to JV's ear, is an ARC Reference 40/Reference 250 combo with killer bass. (234)

#### United Home Audio Ultima4 **OPS-DC**

#### \$26,500, (\$33,000 with OPS-DC Outboard DC Power Supply)

All his life JV has been an analog hound, and will remain one because, next to tape, vinyl is the most realistic medium. But record players, even the very greatest ones, are no longer the kings of sources. The Ultima4 OPS-DC (Outboard Power Supply) edition is (with the right tapes, mind you) simply the highest-fidelity source component he's heard. The sonic improvements UHA's Greg Beron has wrought over earlier iterations of this highly modified, 15ips, two-track, CCIR-biased TASCAM deck are so many and so large that there would be no end of listing them, but several stick out. For one, there is bass such as JV hasn't heard from a stereo. Then there are the



# **Naturally Beautiful**



#### **DVA Digital Preamplifer**

The **DVA Digital Preamplifer** liberates your digital sources from analog preamplifier colorations, revealing all the inner beauty found in your recordings. It's also one hell of a standalone DAC. You'll be amazed at what you're missing!



#### **DVA M225 Monoblock Amplifier**

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dynamics, which run like a ramp from soft to loud, just as they do in life. When you add unrivaled resolution, astonishing transient speed, and simply gorgeous tone color to the package you get playback that cannot be equaled by any other kind of source, save, perhaps, for highly select direct-to-disc LPs, though a steady diet of Lincoln Mayorga and Friends and I Got the Music in Me sure ain't JV's idea of fun listening.

#### Metaxas & Sins Tourbillon T-RX €35,000

Before he heard Metaxas & Sins' Tourbillon T-RX—one of the first brand-new (i.e., non-refurbished) R2R tape decks in decades—JV would've bet big money that nothing else out that there could compete with Greg Beron's UHA decks. Turns out, however, Mr. V. would've lost his wager. This relatively petite, portable tape player from the fertile mind of Kostas Metaxas is not only an object of great physical beauty and Swiss-watch-like mechanical workmanship; it is also a sonic wonder. The 15ips (it will also play at 71/2 and 30ips), two-track Tourbillion with user-selectable (CCIR or NAB) equalization is Kostas' attempt to improve upon the build-quality, sonics, and ergonomics of Stellavox's celebrated SP9, which many professionals considered the best portable tape recorder ever made. Having had no experience with the SP9, JV cannot say whether Mr. M. has succeeded in outdoing his long-time reference. What he can say, with complete confidence, is that the T-RX is gorgeously made, performs flawlessly, and sounds fabulous. One of JV's R2R references. (forthcoming)

#### United Home Audio SuperDeck \$89,995

This completely refurbished, three-box, 15ips, Tascam reel-to-reel tape deck, with bespoke enclosures, boards, parts, damping, and wiring, is the best effort yet from tape maven Greg Beron-and, along with the Metaxas & Sins Tourbillon, the best (which is to say, the most lifelike) source component JV has yet heard in his home. Though the speed, color, resolution, and, above all else, vanishingly low noise of the DS Audio Grand Master optical cartridge and EQ units have pushed vinyl playback considerably closer to the sound of tape, LPs still aren't as naturally full in tone, continuous in duration and intensity, or audibly complete in their presentation as the UHA SuperDeck. Of course, twotrack open-reel tape has several built-in sonic advantages—not the least of which is the sheer amount of information laid down in its wider tracks (and the higher resolution with which those tracks are scanned)—all of which you can hear, par excellence, with Greg's great new machine. If you have the dough and a hankering for the sound of the real thing, it will be tough to find a better source component. JV's other R2R reference. (319)

#### Legacy Audio Wavelet II DSP **Room Correction System**

#### \$7950

Legacy designed the highly sophisticated Wavelet DSP speaker- and room-correction processor (recently updated to the Wavelet II, review forthcoming) to bundle with its own speakers, but this version can be used with any speaker. Functionally, the Wavelet is a preamp with integral DAC, digital crossover, and multi-band digital equalizer. It will correct for speaker and room frequency-response variations, as well as change the time-domain behavior of the wavelaunch from the speaker to reduce the deleterious sonic effects of room reflections. (287)

#### **RECORD CLEANERS**

#### Spin-Clean Record Washer MKII

The Spin-Clean System is a purely manual design—nothing to plug

in. A little elbow grease and fresh air do all the work. Fill the taxicab-yellow basin with distilled water, add a capful of the cleaning solution, and spin the record between the brushes. Ambient air and a couple of swirls of the supplied lint-free cotton cloths do the rest. It's also a truly green product, totally off the grid. And the results speak for themselves—clean surfaces mean less noise and more fully

resolved music. For lighter duty it's tough to beat. (201)

#### Walker Audio **Prelude Quartet Record-Cleaning** System



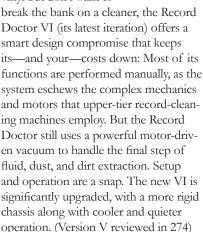
\$215

There are many excellent record-cleaning solutions out there, but this one, developed by analog guru Lloyd Walker, is (in JV's opinion) supreme. The fourstep, enzyme-based Prelude system really does reveal more details that have gone unheard beneath layers of dust and wear than the competition. Though the Prelude's hand-applied, brush-and-fluid cleaning procedure is time-consuming (a record-cleaning machine is only used to vacuum-dry the disc—not to wet or scrub it) and can only be applied to LPs one record-side at a time, for fanatics the effort will be worth it, as no automatic disc-washing machine, conventional or ultrasonic, can achieve quite the same astounding results. (not reviewed)

## Record Doctor VI

\$329

For those who love and care for their vinvl but don't want to



#### Pro-Ject VC-E

\$499

A clean record not only sounds better,



with less surface noise; a clean record also makes your cartridge last longer since there are fewer abrasive elements left in the grooves after a proper cleaning. So, it simply stands to reason that every vinyl enthusiast should own a









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### **RECORD CLEANERS**

record-cleaning machine. Using the VC-E is simple, but good technique is essential to maximize the VC-E's potential. The machine comes with a small bottle of concentrated cleaning fluid, a larger bottle for the mixed-with-water cleaning solution, and a cleaning brush. The Pro-Ject VC-E supplies the basic tools necessary to clean records efficiently and easily. For any LP lover who wants to hear every bit of potential sonic goodness from his records, the VC-E is an excellent way to boost your LP collection up to a cleaner state of being. (306)

### **VPI 16.5**

#### \$950

The VPI 16.5 record cleaning machine is one of those stalwart products that isn't fancy or expensive, but gets the job done, day after day. The vacuum system is more than adequate to remove embedded dirt, and the 16.5 is fairly easy to use. Solidly built and ultra-reliable, the 16 and 16.5 have been in continuous production for more than 35 years. (not reviewed)

### Kirmuss Audio KA-RC-1

### \$970

Kirmuss Audio's KA-RC-1 Ultimate
Ultrasonic Vinyl Restoration System
incorporates ultrasonic cleaning in a more
involved "vinyl-restoration" process,
which Kirmuss Audio has developed.
Though complicated and time-consuming,
the process works. (Note that a dedicated
day may be required to utilize and maximize KA-RC-1 restoration when cleaning
multiple records.) If you can devote the
time and energy needed to get the best
out of this process, seek a demo and give
the KA-RC-1 a try. (304)

### Degritter Ultrasonic

### \$2995

The Degritter brings the incontrovertible benefits of ultrasonic LP-cleaning to a new, lower price. Even better, the Degritter is easy and fun to use, offers a wide array of features, is relatively quiet in operation, and is software upgradable. The advantages of ultrasonic LP cleaning go beyond quieter surfaces; those microscopic bubbles remove contaminants that brushes can't touch to render greater soundstage depth and definition, higher resolution, and a greater feeling of life. If the \$6500 Clearaudio Double

Matrix Sonic is outside your budget, the Degritter is the ultrasonic cleaner to buy. (320)

### Audio Desk Systeme

#### \$4995

This completely automated record cleaner is outstanding. The ultrasonic cleaning technique loosens dirt embedded in groove modulations that are too small for even the finest bristles. The Audio Desk renders a dramatic increase in resolution, soundstaging, timbral fidelity, and immediacy. Once you hear what the Audio Desk does, you won't want to live without it. The icing on the cake is the fully automatic operation; just pop in an LP and watch as the cleaning tank fills, cleans both LP sides simultaneously, and then drains the tank, and dries the record. (234, 239)

### Clearaudio Double Matrix Professional Sonic

#### \$6500

Already pretty damn impressive in its Double Matrix version, the Double Matrix Sonic adds a "sonic" vibration option to Clearaudio's fully automated, brush/fluid/vacuum record-cleaning machine (which works on both sides of a record simultaneously). Whether it's due to those sonic vibrations or just more advanced brushes and fluids or both, LPs do sound notably cleaner via the Sonic (i.e., lower in noise, higher in resolution). JV isn't sure that this latest Clearaudio is equal to or better than a full-bore sonic record cleaner, but it is certainly less of a hassle ergonomically—and it never spills fluid or generates enough heat to warp records (even temporarily), as certain sonic record-cleaning machines do. (forthcoming)

### **EQUIPMENT RACKS**

### IKEA Kallax Shelving Units \$35

These sturdy, open-backed, painted particleboard cubes (four per easily-assembled unit) happen to be just the right size for LPs. If you have a big record collection, here is a simple, nice-looking, and expandable solution to the always-vexing question of where to put them. (not reviewed)

### Mapleshade LP Racks

### \$148, Single tier (stackable)

With the premium vinyl resurgence of the last few years, record collections are increasing once again. Run out of rack space? Mapleshade rides to the rescue. Its racks are constructed of finished or unfinished oak or finished Ambrosia maple and are still handcrafted by the Amish family that also builds Mapleshade's massive Samson racks. The LP racks are beautifully sawn with clean edges and immaculate corners. They are wider and heavier than the Per Madsen rack standard of yore. Plus the planks are cut thicker—all the better to support the latest crop of 200-gram reissues. (245)

## Stillpoints Ultra Mini/Ultra SS v2/Ultra 2/Ultra 5 v2/Ultra 6 v2/Ultra 7/LPI v2

### \$125/\$250/\$399/\$699/\$939/\$12 99/\$549

Stillpoints' Ultra SS and Ultra 5 isolation devices are extremely effective in reducing vibration in components. They can also be positioned under speakers, replacing spikes or footers (Stillpoints offers a range of threaded adapters to fit any speaker). Whether deployed under preamps, power amps, DACs, or speakers, Stillpoints' isolation devices can produce a significant improvement in the sound, specifically resolution of low-level detail and the ability of the speaker to disappear into the soundstage. The Ultra SS and Ultra 5 differ in the number of "pockets" of isolation mechanisms within the footer. The effect of more Ultra devices is synergistic; the more you add, the greater the apparent gain. The LPI applies Stillpoints' technology to a record clamp, emulating the salutary sonic effects of vacuum hold-down on any turntable. (Ultra SS, 219; LPI and Ultra 5, 225; Ultra 6, 265)

### Sanus SF26 Steel Foundation Speaker Stands

### \$170/pr.

Sanus' thoughtfully designed and beautifully executed SF series speaker stands do everything you could want a good set of stands to do, and at a price that makes sense. Strong, rigid, and resonance-free, they include provisions for installing sand or lead-shot damping, and are easy to assemble. (not reviewed)

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### Mye Sound Stands

### \$270 and up

These aftermarket stand/braces designed for Maggie dipole loudspeakers have no downside, according to reviewer Jacob Heilbrunn—only up. Punchier and tauter bass, quieter backgrounds, cleaner mids and highs, increased snap and speed, less smearing and fuzziness are just a few of the benefits. (not reviewed)

### Magna Riser Ascension I Magneplanar Speaker Stand \$295

These beautifully made stands, with powder-coat finish, are designed exclusively for Magnepan speakers. With Magna Risers installed, everything that makes Maggies special is taken to a higher plane—that famous absence-of-a-box air, three-dimensionality, and soundstaging, that excellent imaging and realistic sense of instrumental and venue size and space, that top-to-bottom coherence and reach-out-and-touch-it "thereness," that uncannily realistic recreation of drums, which of course the Maggie's stretched Mylar membranes mimic. Other qualities that Magnepans are not often associated with, such as dynamic power and low-frequency extension and weight, are likewise elevated to new and unexpected levels. (309)

### Townshend Audio Seismic Podiums

### \$1750-\$4000 (varies according to size)

Townshend's unique take on speaker isolation proved irresistible to NG. Supported at each corner of the platform by Load Cells—a height-adjustable damped-spring system—the Podiums are essentially colorless, never insinuating themselves into the music. Any suggestion of sonic constraint or congestion simply goes poof. The soundstage is liberated from a subtle opacity and veiling, which results in a wider spectrum of tone colors, better micro-dynamic gradients, and increased dimensionality. Images emerge and recede naturally, and bass response, extension, and pitch flow more freely. The Podiums become so fundamental to the listening experience that calling them mere accessories fails to give them enough credit. (312)

### Solid Tech Rack of Silence

### \$1899 and up

The aptly named Rack of Silence helps damp equipment vibrations, thus fostering audibly quieter backgrounds and heightened resolution of detail. The core of the system is a sophisticated, extruded aluminum rack with skeletal, X-shaped equipment "shelves." Reference versions come with suspended shelves that support a wide range of components—even heavyweight amps. Complementing the rack is a broad range of optional vibration-fighting accessories such as damped suspension-pods. Though tricky to assemble, the system works exactly as advertised, making even the finest components sound better. (not reviewed)

### Symposium Acoustics Isis Price varies with configuration

### Price varies with configuration

The Symposium Acoustics Isis combines three different kinds of damping: mass, constrained-layer, and (for lack of a better word) tectonic. Using heavy-duty steel shelves that are themselves damped with constrained-layer material and heavy-duty, segmented, aircraft-grade aluminum legs that are isolated from the shelves, from each other, and from the floor via Tellurium/copper spike-feet and Symposium's patented rollerblock technology, the Isis eliminates all lateral and vertical motion induced by floorborne or airborne resonance. Its effectiveness is astonishing. (not reviewed)

### Critical Mass Systems Sotto Voce

### \$3500 (natural or black finish)

CMS products have revised reviewer Alan Taffel's concept of what a good equipment rack should do. Previously, he saw the rack's role as making the products they support sound their best. Of course, this remains one goal, and it is one that



the Sotto Voce, CMS' entry-level offering, meets with ease. Components on the SV benefit from tighter bass, transients with more verve and no less control, and sharper rhythms. However, the SV imparts another benefit in that it dramatically reduces the noise floor of the entire system. By getting what AT can only describe as "random energy" out of the sound, the SV delivers a less electronic, less hurried, less blurred presentation of the music. Not only that, the SV is a lovely piece of furniture and costs one-tenth the tariff of CMS' flagship Maxxum system. And, when fortune smiles, there are a multitude of ways to upgrade the Sotto Voce. (249)

### Critical Mass Systems Maxxum MK III Amplifier Stand

#### \$6250

This beautifully built product is based on the same technology found in Critical Mass Systems' Maxxum equipment racks; the stands are essentially a Maxxum shelf mounted on a four-point X-shaped support structure. Sonically, this amplifier stand allows the system to better resolve low-level information. The increase in resolution isn't heard so much as greater detail (although it is to some degree), but rather as an increase in the sense of realism, spatial definition, the fine dynamic structures of instruments, and the ability of the loudspeakers to disappear. (249)

### Critical Mass Systems Maxxum MK III

### Starting at \$6250 per component

These (critically) massive, beautifully engineered, extraordinarily well-made equipment stands—constructed of heavy-duty CNC-milled and mirror-polished aerospace aluminum struts and heavy-duty CNC-milled aerospace and mirror-polished aluminum shelves with constrained layer damped inserts in their tops and roller-bearings underneath (the whole she-bang finished in gorgeous custom high-end automotive paint)—are the *ne plus ultra* in audio-component support systems. Not only do they look gorgeous; they also work more effectively to eliminate floorborne resonance than any other stands JV has tried. Where really heavy footfalls nearby turntables sitting on previous support systems could make the stylus skip, nothing-not even



#### **PRIMALUNA**

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#### MANLEY LABS

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### TANNOY Stirling GR **Dual-Concentric Loudspeaker**

\$6,000 (pair)

Tannoy's point-source driver kicks ass. Reviewers Robert Harley and Dick Olsher declared performance approaching \$10k.



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### DR. FEICKERT TRIO SE TURNTABLE



### **Upscale Audio Exclusive**

Trio SE is an update of the Venti, with a walnut finish, and many isolation and damping updates. Multiple tonearms and cartridge options available.

With Kuzma 4Point Tonearm and Kisek Purple Heart Cartridge: \$18,115

Starts at:



### **EQUIPMENT RACKS**

jumping up and down in place—seems to faze gear sitting on the Maxxums. Very expensive but definitely worth it for those of you with this kind of mad money (and a taste for beautiful things), the Maxxums are JV's and RH's references. (226)

### Stillpoints ESS

### \$8450-\$45,000 (depending on configuration)

Stillpoints has always possessed an uncanny ability to lower the noise floor with its innovative footers. But its amp stands and ESS racks are simply brilliantly innovative designs that will take your system even further into the realm of stygian silence. Both are based around an unobtrusive open architecture that allows your audio gear to take pride of place rather than a bulky rack. The amp stands can be adjusted to fit pretty much any amplifier and dramatically improve dynamics and interstitial detail. The same goes for the ESS racks, which offer an elegant and effective solution for housing your precious audio gear. (255, 312)

### Critical Mass Systems QXK

### \$11,960-\$19,960 (four shelves)

These beautifully made, beautiful to see, less expensive, but nearly equally effective versions of Joe Lavrencik's fabulous constrained-layer-damped shelves and stands provide almost the same amount of vibration isolation, timbral, dynamic, and resolution enhancement, and resonance reduction as his ne plus ultra Maxxums, for a lot less dough. If you've got the money and the system, by all means go for the Maxxums (now in their Mk III versions), but if you want to save some cash for other purchases (and are still well-heeled), you would not be making a mistake if you opted for the QXKs. They are terrific. Along with the Maxxums, these are JV's references. (forthcoming)

#### HRS VXR

### \$24,475 (+damping plate, helix footers)

Harmonic Resolution Systems supplies one of the most effective resonance-control systems in high-end audio. At the heart of its line is the VXR stand. This heavyweight is a modular design that can be either grounded or isolated, and the isolation bases that are loaded into the stand are optimized for the weight range

of the products that they support. The high-mass VXR stand, composed of a custom, billet-machined, heat-treated aluminum frame, appears to reduce, and not by a small margin, subliminal hash and grain, endowing the music with a sense of hush, or, if you prefer, black backgrounds, from which it emerges with greater fidelity. To complement its impressive stand, HRS also offer several other products, including a damping plate as well as Helix footers. (319)

### Critical Mass Systems Olympus

### \$30,750 (three-shelf rack)

The flagship of the Critical Mass Systems line, the Olympus lives up to its name in size, sheer visual presence, and most importantly, sound quality. This no-holdsbarred equipment stand features CMS's most advanced implementation of its technology for reducing component vibration. The Olympus equipment rack and matching amplifier stands lower the noise floor, allowing fine timbral, dynamic, and spatial details to emerge as well as allowing the system to create a rock-solid bass foundation. The build- and finish-quality are nothing short of spectacular. The Olympus' performance is taken to another level when it is used in conjunction with CMS's CenterStage2 isolation devices. Matching amplifier stands are \$10,250 each. Expensive but worth it if you want the best. RH's reference. (forthcoming)

#### POWER CONDITIONERS

### Shunyata Research Venom Defender

### \$300

Power conditioning systems tend to give, and to take away. But the eminently affordable Venom Series power products from Shunyata blind-sided NG. Whether assembled individually or in one not-so-big-gulp, PS8/Defender clarified, fine-



tuned timbre and character, and released heretofore hidden musicality from his system. Begin with the ruggedly built PS8 six-outlet conditioner, then consider adding even further refinement with the big time surge protection and flagship filtration technology of the pint-sized Defender. If you have an AC outlet, you're good to go. Bravo to Shunyata for designing a system that acknowledges the fact that not everyone has the cash, space, or inclination to run dedicated lines into a listening room. Apartment dwellers take note. You'll never look at power strips and AC power quite the same way again. (239)

### Audience aR2p/aR12/aR12-T3/aR6-T4 \$695/\$4995/\$9200/\$6600 (Studio

One powerChord upgrade, +\$2299; Au24 SX upgrade, +4660; frontRow powerChord upgrade, +\$6300) The aR2p, Audience's compact, dual-outlet power conditioner and isolation device is based on the massive 12-outlet versions of which Audience is rightly proud. Used with a CD player, its enhancement of soundstaging, dimensionality, and depth can be profound. With demanding high-current devices such as amplifiers, transients seemed a little soft. An audition is recommended. Further up the Audience food chain are the 12-outlet heavy-hitters. The aR12p was found to be an extremely effective conditioner, capable of delivering significant improvements in bass definition and depth, overall resolution, and soundstage depth. Its build-quality is nothing short of exemplary. At the top of the hill is the new TSS line with Teflon capacitors. (162,

### **Audience forte V8**

179, 186, 235)

#### \$980

The Audience forte V8 power strip gets right down to business with eight hospital-grade AC outlets, each wired separately with high-purity stranded copper. The entire electric circuit has been treated cryogenically, as well. The V8 performed impeccably, with no discernible losses, changes, or degradations versus wall outlets. If anything, backgrounds were quieter and low-level detail more fully resolved. Bass response firmed up and conveyed greater control. Soundstage

dimensionality and ambience retrieval were also enhanced. With impeccable build-quality, the V8 is virtually unbreakable—and not liable to break the bank. It ships with the exceptional forte F3 powerChord. In all, a no-brainer. (311)

### IsoTek Aquarius

#### \$1995

The rack-width steel-and-aluminum chassis houses six outlets—two high-current (rated at 16A and suitable for power amplifiers, active loudspeakers, or subwoofers), and four medium-current. Aquarius benefits from much of the innovation and technology of uptown IsoTek's Nova and Sigma conditioners. In terms of a three-dimensional presentation, clean transients, and micro-dynamic and low-level information, the Aquarius has some real moves. In suppressing line noise, Isotek unlocks low-level transparency in the same way that removing layers of old wax from a fine wood surface allows more of the inherent depth and beauty of the grain patterns to shine forth. Cues seemed deeper than ever. Soundstage image depth is increased, while images became more tangibly present and stable. The Aquarius provides both performance and protection that won't blow a fuse. Why would you ignore such a component when all you have to lose is the noise? (297)



### Shunyata Research Hydra Delta D6

### \$3250

Housed in a full-sized chassis and rated at 20 amps of continuous current, Shunyata's Delta D6 delivers the juice to more demanding systems, including high-powered amplifiers. Its most noteworthy sonic achievement is an expansion of spatiality and ease. At the micro-level, images are pocketed within halos of ambience within the soundspace. These micro cues create a finely focused presentation against an almost eerily noiseless and distortion-free backdrop. Equipped with top-notch features, superior electromagnetic breakers, 8-gauge ArNi conductors, Hubbell out-

lets, vibration-dampening materials, and cryogenic treatment, the Hydra Delta is a significant upgrade at a relatively modest price point. Shunyata's latest PC is among its most persuasive yet; it makes any audio rig less about electronics and more about music. (305)

### IsoTek EVO3 Sigmas

#### \$3995

Isotek, based in Hampshire, England, seeks to produce what the British like to refer to as "serious kit." And it does. The EVO3 Sigmas power conditioner is a case in point. It is pretty much guaranteed to banish any lingering hum issues you may be experiencing courtesy of a refractory wall outlet. It features six outlets with two dedicated for high-power equipment, such as amplifiers or subwoofers, that are said to deliver up to 3680 watts of continuous power. Each outlet is scrupulously divorced from the other so that there is no possibility of cross-contamination. Indeed, IsoTek says it eliminates both common mode and differential mode noise. The improvement in sound quality via the Sigmas is immediately audible. It lowers noise floor, improves transient response, and provides blacker backgrounds. (254)

### Synergistic Research PowerCell 12 UEF/PowerCell 12 UEF S/ PowerCell 12 UEF SE

\$4995 (includes UEF Black HC AC Cable, \$499)/\$5995 (includes Atmosphere level 3 PowerCell AC Cable, \$2995)/\$6495 (includes Atmosphere level 3 PowerCell AC cable, \$2995)

As a skeptic about power conditioners, JHb was pleasantly surprised by the improvements in imaging and dynamics rendered by the Synergistic Power Cell. Unlike many of its brethren (no need to mention them by name, the offenders know who they are), the PowerCell did not appear to limit current. Instead, it offers even blacker backgrounds and lowered grit and distortion. Particularly noteworthy were the smoother treble and improved suppleness of musical lines. The PowerCell is pleasingly lightweight and attractive. Synergistic head honcho and lead designer Ted Denney III, it must be said, continues to advance the state of the art when it comes to filtering electricity. As with all conditioners, however, auditioning the Synergistic in your own system is a must, as the quality of electricity varies markedly from home to home. (192)

### Shunyata Research Everest 8000/Omega XC Power Cord

### \$8000/\$7000

Shunyata's new Everest 8000 is easily the company's finest effort yet, delivering an entirely unprec-



edented level of performance. This eight-outlet conditioner in a vertical truncated pyramid chassis benefits not just from Shunyata's previous work on AC power for audio, but from technology developed by founder Caelin Gabriel for Shunyata's sister company, Clear Image Scientific, which makes AC conditioning for medical imaging equipment. The XC power cord that connects the Everest to your wall outlet is no less impressive. The soundstage opens up with greater space and depth, with more vivid and tangible images, along with far greater resolution of air and space around those images. Low-level information is resolved with finer precision, and timbres are more lifelike. RH's reference. (311)

### AudioQuest Niagara 7000 \$9800

The 81-pound Niagara 7000 is the brainchild of AC design engineer Garth Powell, whom AudioQuest hired and essentially gave two years and carte blanche to design a new power device from scratch. Powell says the Niagara 7000 is not a power conditioner; rather, it relies on dielectric-biased AC isolation transformers to reduce distortion without reducing current to any component, including amplifiers. Essentially, the Niagara seeks to create a power bank for your amps so that it doesn't have to strain to grab voltage from the wall. The most immediate and salubrious effect of the Niagara was to offer more controlled and refined performance. The treble is definitely smoother and rounder with the Niagara. Overall, the Niagara is a fabulous piece of equipment that adds a sheen and palpability to the music that are utterly addictive. (271)

### Audience aR12-T4

\$11,400 w/6ft. powerChord SE-i (Studio One powerChord upgrade, +\$2299; Au24 SX upgrade, +\$4660)
To Greg Weaver's ear, Audience's new aR12-TSSOX power conditioner represents a substantial improvement over its predecessors, so much so that it would be fair to say that it borders on an order of magnitude advance. This is a world-class device, deserving your full attention. Give one a listen—perhaps the 6- or 2-socket variety—but be prepared to buy it. If you are anything like GW, there is no chance it will come out of your system once it is in place! (268)

### Ansuz Acoustics Mainz8 D-TC \$25,300

This top-of-the-line mains and ground distribution unit features an extremely low-impedance star-grounding system along with proprietary technologies (think Tesla coils and the like). The eight-outlet D-TC box filters away noise without self-inductance and works like a mains system; it enables the ground to be at the lowest possible impedance. Ducts remove mains noise for cleaner, purer, and more transparent sound. There's a tricky technological concept at work in the D-TC box: A dither ring emits a signal—as in radar and sonar—that allows listeners to "peek" into the sonic information below the noise floor. The mind perceives and assimilates these additional "fragments" allowing it to "fill in" a more complete sonic picture. Yes, this Danish-designed and -made component retails for a princely sum, but if you have the cash, by all means audition this box. The audible improvements across all criteria—are not subtle, but staggering. (JV)

### INTERCONNECTS & SPEAKER CABLES

Transparent Audio The Link Interconnect, The Wave Speaker Cable, High-Performance Power Cord

The Link, \$100/1m; The Wave, \$250/8' pr.; High Performance Powerlink, \$340/2m.

Although we have experience only with

Transparent's lower-priced offerings (at the moment), what we've heard has been extremely impressive. The \$100 The Link interconnect brings more than a taste of high-end interconnects to an entry-level price. Similarly, The Wave speaker cable is a bargain, offering superior tonality, wider dynamics, and a more open soundstage. The High-Performance Power Cord is a vast improvement over stock AC cords, and just might be the most cost-effective upgrade possible in an entry-level system. The PowerWave 8 conditioner is also an extremely cost-effective upgrade, rendering wider dynamics, smoother timbres, and a greater sense of musical involvement. (not reviewed)

### Morrow Audio MA3/MA6/SP3/ SP6

MA3 interconnect, \$199/1m pr.; SP3 speaker, \$299/.5m pr. MA6 interconnect, \$999/1m pr. (RCA); SP6 speaker \$999/1m pr.

The most impressive aspect of Morrow SP6 and MA6 wires is the way they unearth and extract the essence of performances through the recovery of the finer points of vocals and instrumentals. Think neutral and detailed without veering into analytical territory. As you'd expect, the primary difference between the MA3 and MA6 is the degree of resolution. The lower-cost 3 also has a bit more of a laid-back feel with slightly less punch on attacks. Still, lovely harmonics and low noise floors are there; instrumental textures and tones are still pretty credible and inviting; and the amount of musical detail conveyed with both SP3 and MA3 wires in the system remains pleasing and non-fatiguing. Easy to use, easy on the ears, and easy on the wallet, both Morrows are easy recommendations. (298)

## Kimber Kable Hero Interconnect/8TC and 12TC Speaker Cable

Interconnect \$248/1m pr.; 8TC speaker \$553/2.5m pr. with SBAN connectors; 12TC speaker \$823/2.5m pr. with SBAN connectors

Yielding only a tiny bit in control, top-end transparency, and detailing to PS's reference, Hero's bass lives up to its name, prodigious in amplitude and definition.

Dead neutral, with dynamics at once powerful yet finely resolved in an essentially grain-free presentation. The 8TC speaker cable has that elusive ability to remain musical no matter what is happening fore or aft, ideally mediating detail, liveliness, tonal neutrality, and dynamic contrasts within a very realistic, holographic sound-stage. (138, 146)



### Nordost Purple Flare

Interconnect \$299/1m pr., \$419/2m pr.; speaker \$484/1m, \$654/3m

Featuring Nordost's classic flatline configuration the Purple Flare is a rung below the current incarnation of Blue Heaven, yet it's a little trip to heaven on its own. It really shines in the midband with a driving, slightly forward energy that imparts dynamic liveliness to all genres of music. There's significant macro-dynamic punch resulting in orchestral crescendos, full-blown percussion licks, and brass-section blasts of impressive authority. It evinces the transient speed of a sprinter, yet never suggests any serious tonal balance discontinuities. Its treble range is wonderfully free from major constrictions. Bass is not quite as fully exploited in extension or bloom, and there's a bit of coolness in the middle treble. But, on balance, it is as open and as transparent as any cable in this class. (236)

### WyWires Blue Series

Interconnect \$299/4' pr. (RCA or XLR); speaker \$449/8' pr.

The first WyWires cable reviewed in TAS, Blue is also one of the most pliable, easy-to-handle cables available; yet its sound is anything but humble. Its sonic signature is energetic, with a potent midrange, plenty of drive, and a slightly cooler, forward tilt. The Blue's sonics aren't juiced-up or overheated, but if the





### **INTERCONNECTS & SPEAKER CABLES**

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goal is high transparency and black-satin background silences it will prove a real achiever. It exhibits good rhythmic pace and a wonderful facility with inner detail. An unpretentious component that lets the quality of the recorded performance speak for itself, the WyWires puts the music upfront and centerstage. A truly auspicious debut. (236)

### Cardas Audio Iridium

Interconnect \$320/2m pr.; speaker \$500/3m pr.

The Iridium interconnects and speaker cables are made from Grade 1 OFHC 99.9999% copper Litz wire with a crossfield geometry in an insulated FEP jacket. The geometry of the wiring is said to be a Shielded Star-Quad 4 arrangement in Golden Ratio proportions bound together by PTFE tape, while the hybrid shield is spiraled tin-plated copper surrounded by carbon-impregnated PTFE tape. The geometry of the speaker cable is a twisted pair using natural cotton filler wrapped together with a PTFE

tape. The Iridium interconnect/speaker combination leaned toward being even in sonic distribution with a slightly warmer-than-neutral presentation with no enhancements and a slight reduction in low-level resolution and bass dynamics. If the system could use a bit fuller sound with additional bass authority in the power region and some reduction of upper-midrange and lower-treble energy, the Cardas Audio Iridium might fit that requirement. (274)

Morrow Audio SP7 Grand Reference Speaker and MA4 Reference and MA7 Grand Reference Interconnects

Interconnect MA4 \$329/1m pr., MA7 \$1399/1m pr.; speaker \$1499/2m pr.

A relative newcomer to the cable ranks, Morrow Audio's wires performed like an old pro. Nicely weighted, with a solid midrange sweetspot, these wires had terrific low-level resolving power, solid bass, and good soundstaging and dimensionality. The MA4 Reference interconnect was mildly dry on top; the more expensive MA7 interconnect spiced up the harmonics and added just a bit more juicy texture and complexity to the sound. Overall, this was a cable that defied expectations in its range. (259)

### Shunyata Research Venom

Interconnect \$450/1m pr. RCA (\$570/2m), \$650/1m pr. XLR (\$810/2m); speaker \$998/2m

The new Venom Series represents 15 years of Shunyata Research's ongoing technical innovation and custom-parts engineering. To that end, the company uses the finest available metals, such as expensive Ohno Continuous Cast Copper. Also, Shunyata has included new features like hollow-core (VTX) conductors. Our reviewer found the Venom speaker cables and interconnects to be very natural, open, and dimensional. In much the same way that Shunyata's designs strive to keep distortion out of the signal path, its cables get out of the way



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of the music. The Venom speaker cables and interconnects offer a reasonably neutral palette with pleasing delicacy of detail and rich warm harmonics. To borrow a favorite expression from JV, they are quite gemütlich and sweet, without glare or etching. Some might find them a touch polite dynamically (I don't), but that's a matter of personal taste. Quite a high-quality signal cable that performs well and doesn't cost a fortune. (266)

### Wireworld Eclipse 8

\$450/1m pr., either RCA or XLR

The Eclipse 8 is a "go-to" product in mid-priced interconnects. Built from OCC copper, outstanding terminations designed by Wireworld, and the company's patented DNA Helix geometry, the Eclipse 8 is more technically sophisticated than is typical at this price. The Eclipse 8 adds no hardness or glare to the mids, has a smooth yet extended treble, and is overall remarkably transparent. (forthcoming)

### **Esprit Audio Beta**

Interconnect \$490/1.2m pr. (RCA), \$490/1.2m pr. (XLR); speaker \$390/2m, \$580/3m (with spades)

In foodie terms Beta is excellent bistro fare. Construction quality is first rate; terminations are robust. Beta is also an easy, compliant cable to handle, for those hobbyists who tend to swap out wires more frequently. Sonically, Esprit Beta has a throaty, chesty, midrange-centric presentation. Vocal detail is clean and expressive on baritones and sopranos alike. The treble is somewhat rolled on top, with a smooth sibilance region, making Beta easily listenable. Soundstaging is highly convincing in width and dimensionality, too. Tailored to a price point, Esprit Beta performs superbly for a budget model. (289)

### Siltech Explorer 90

Interconnect \$550/1m pr.; speaker \$1000/6.5' pr.

Bringing Siltech quality and cachet to an easily affordable price point makes

Explorer an excellent upgrade cable for a mid-priced system. Its healthy midrange, good articulation, and low-level reproduction make this a wire that will give many pause before spending much more. Dynamics and bass extension are convincing as they communicate many of the more specific timbral complexities in the lower octaves. It could be a trifle sweeter in the lower treble but few wires challenge it at this tier. Along with some other frugal note-worthies Siltech's latest is redefining cable performance at this price point. (226)

### Wireworld Mini Eclipse 8

\$580/ 2.5m/pr. single termination, \$620/ 2.5m/pr. bi-wire

These affordable speaker cables benefit from Wireworld's upper-end line, and feature the company's DNA Helix geometry, 14-gauge, OCC-copper conductors, and interchangeable spade or banana terminations. Nicely made and very flexible, the Mini Eclipse 8 has a neutral sonic character that imposes very little of



itself on the music. The midrange and treble are extremely clean in texture, and the treble is open and detailed without being bright. A decided improvement over the already stellar Mini Eclipse 7. (forthcoming)



### Synergistic Research Foundation Series

Interconnect \$599/1m pr.(RCA or XLR); speaker \$649/8' pr. (spade or banana)

JV wasn't expecting much—and certainly not this much-from Synergistic Research's immensely pliable, bargain-basement Foundation Series interconnects and cables, which are far slimmer, lighter, and less sophisticated in design than their rich relatives, the superb Galileo SXes. But, trust him, sonically the Foundations come way closer to the Galileos than you would expect. Indeed, these two SR lines have a great deal in common—rich vibrant tone color, robust dynamics, spacious staging, lifelike imaging, high resolution. Oh, the more sophisticated Galileos are less bottom-up in balance, fuller, more finely detailed, and harder-hitting than the Foundations; then again, they ought to be-they cost 10-to-20 times the dough. Put plainly, the Foundation Series is the best budget-priced wire JV has heard. (304)

### Moon Audio Silver Dragon V2 \$625/3' pr., RCA or XLR

Moon Audio's specialty is custom, handcrafted cabling for any application. The V2 version of Silver Dragon, its top audiophile interconnect, uses an eightwire braided geometry of solid-core 99.999% pure silver with Teflon insulation. Connectors are top-notch—WBT Nextgen or Furutechs. These wires are

superbly quiet, establishing a dark silent backdrop from which music freely and cleanly emerges. Tonally, Silver Dragon is a model of smooth, rich midrange response—faithful to the real thing in its neutrality, color saturation, and fluidity. There's a satisfying mellowness to its character—one that doesn't exactly soften transients (there's plenty of snap and speed to go around) but does add a measure of overall warmth to the presentation. Silver Dragon is very specific in imaging and perspective—each musician is firmly in place and slightly forward on the stage. This is an interconnect that defies every expectation for a modestly priced product. (244)

### **Morrow Audio 5 Series**

Interconnect \$649/1m pr. (RCA); speaker \$699/2m pr.

The MA5 interconnects are handcrafted with 36 runs of Morrow SSI wire. SSI is a solid-core, small-gauge, individually insulated, silver-coated copper wire. The SP5 speaker cables contain 72 runs of the same Morrow SSI wire. The Morrow Audio MA5 interconnects and SP5 speaker cables were consistent across all sources and equipment combinations. The pair tended to display an abundance of energy and detail from the upper midrange through the lower treble. In a system that could use a bit more emphasis on the upper midrange and lower treble along with a lowering of bass energy, without any overt losses of tone and speed, the Morrow Audio MA5/SP5 might fit the requirement. (274)



### Wireworld Silver Eclipse 8

Interconnect \$700/1m (RCA or XLR); speaker single-wire, \$3100/2m (\$3800/2.5m)

Within the Wireworld lineup, Silver Eclipse stakes out territory between Eclipse and Platinum. It includes a larger number of strand groups, larger-gauge silver-over-copper conductors, plus a new iteration of Composilex insulation. Sonically, what defines the latest generation of Silver Eclipse, and arguably all Wireworld efforts, is a lack of spectacle—a less-is-more naturalism that brings forth

a musical performance in all its authenticity. Overall transparency in general and inner resolution in particular have improved. Transients are whip-quick and clean. Silver Eclipse opens up the space between images and sniffs out timbral distinctions and low-level complexities like a bloodhound. The surprise is just how closely this mid-priced model comes to Wireworld's flagship models. (301)

### Analysis Plus Silver Oval

Interconnect \$962/1m pr.

Without fanfare, the Silver Oval knows how to make an entrance. Its sonic signature is wide open, dynamically unrestricted, and seamless across the entire tonal spectrum. Silver Oval's balance is superb, as neutral as they come with a breathtaking level of micro-dynamic nuance. The other factor going in its favor is the very low noise-floor that this wire brings to bear—a quality that boosts and broadens dynamic range in every octave. Some systems may make Silver Oval sound slightly cooler than neutral, but there is no treble constriction to speak of—a rarity in this class. Analysis Plus keeps providing further evidence that the sonic gap between reference cable and its more affordable rivals is closing fast. (236)

### Synergistic Research Atmosphere X

Alive (Level 1) Interconnect \$995/1m pr. RCA, \$1295/1m pr. XLR; speaker \$1495/8' pr.; AC \$995/5'

Excite (Level 2) Interconnect \$2250/1m pr. RCA, \$2650/1m pr. XLR; speaker \$3495/8' pr.; AC \$1995/5'

Euphoria (Level 3) Interconnect \$3495/1m pr. RCA, \$3995/1m pr. XLR; speaker \$5495/8' pr.; AC \$2995/5'

Synergistic's latest wire series represents the culmination of the brand's efforts to bring the wealth of innovative conductor, isolation, and resonance technologies from its active cables (including the flagship, Galileo LE) and merge them into a top-notch "passive" design. To revisit a phrase, "Mission accomplished." Aptly named, Atmosphere continues the Synergistic tradition of expanding the boundaries of the soundstage, of enlivening microdynamics, and of resolving



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fine detail. Available in four levels—the last three with Ground Plane Technology (Level Three and Four also include special terminations for Atmosphere Tuning Modules). As a bonus, the Atmospheres are vastly more flexible than the pricier Element Series for much easier positioning. In addition, price points have also benefitted accordingly. (262)

### Cardas Clear Reflection

Interconnect \$1150/1m pr. (RCA and XLR); speaker \$2800/2.5m pr. A blend of the company's previous Golden Reference design and its current Clear technology, Cardas Clear Reflection held its own when stacked up against more expensive cables and, accordingly, gets high marks for delivering good performance at a reasonable price. Reviewer KM was charmed by Clear Reflection's fluid, organized, detailed, and musically satisfying qualities, concluding that he would not hesitate to recommend it to others, or to consider it himself for a second system. (254)

### Harmonic Technology Pro-7 Reference Armour and Armour

Interconnect \$1350/1m pr. RCA (\$400 per 0.5m additional pr.); speaker \$3700/8' pr. single-wire, \$4000 for bi-wire

Pro-7 Reference Armour and Armour Link III are Harmonic Technology's topline speaker cables and interconnects. As a system they produced highly detailed, musically insightful sonics across the board, with a wide spectrum of tonal color, excellent micro-dynamic shading, and powerful large-scale dynamic contrasts. Overall, their tonal character was essentially neutral with just the barest hint of a lighter complexion—a characteristic that often shows up in products with quick transient response. What most captured NG's attention was the HT Armour's ability to elicit dynamic gradients from recordings. A statement product pure and simple, HT Armour joins the ranks of some of the most elite cables in NG's experience. (255)

### Clarus Crimson

\$1500/1m pr., RCA; \$2100/1m pr., balanced; 4320/6', speaker; \$5280/6', bi-wire



These are no fire hoses, snaking around your equipment, but unobtrusive and fairly flexible wires whose terminations are beyond reproach. While these cables will not provide any extraneous fireworks or a vast soundstage, it is their very subtlety that eventually draws your attention. The cables are as elegant sounding as they are svelte. They supply by high-end standards an economical route to superb sonics that is unobtrusive both in execution and fidelity. Seldom has JHb heard as grain-free a cable as the Clarus, which lives up to the Latin provenance of its name—clear and shining. (320)



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### Nordost Frey 2

### Interconnect \$1609/1m; speaker \$2644/1m; power cord \$1849/1m

Occupying the sweetspot of Nordost's mid-priced Norse 2 line, the radically updated Frey 2 combines the high performance macro- and micro-dynamics that Nordost is famous for with richer mids and a brawnier, meatier bottom end that gives orchestral music more discernable ambience and weight. Of course, transient speed is on hand, but the Frey 2's are also a bit more controlled in the midbass and able to land a tighter, dynamic punch than most of the competition. In a word, the Frey 2s deliver flat out more fidelity to the live event. Frey 2 power cords deserve some special props toothey offer supernaturally quiet black backgrounds that enhance the resolving power of the Frey 2 cable. An exceptional performer from a proven brand that through the decades has continued to evolve and improve. (265)

### Cardas Cables Clear

### Interconnect \$1840/1m pr.; speaker \$4334/2.5m pr.

What makes Clear exceptional are its balance and coherence. Even compared with earlier Cardas efforts Clear conveys a wider band of resolving power and transparency, with greater speed and agility across the transient landscape. Its relaxed character and bass warmth are consonant with symphonic music. Plus the naturalistic midrange lends an agreeable ripeness to orchestral string sections. There remains an almost buttery sweetness in the Clear but also a fluidity that projects the full unbroken acoustic of the symphonic experience. The only caveat: Like many of its premium ilk, Clear is a cable that only fully roars to life on premium gear where the full extent of its talents can be exercised. (226)

### Audience Au24 SX

Interconnect \$1999/1m RCA pr. and \$2640/1m balanced pr; speaker \$3616/2.5m pr. Audience's topline wire produces a ripe midrange weight and sweetness, vivid dynamic contrasts, and a profound sensitivity to delicate volume gradations. Ultimately, it possesses a brilliance that casts light in the deepest corners of the soundstage and restores air and lift to harmonics. A particular strength of all these cables is the often hard-to-achieve blend of the transient, the tactile, and the reverberant. The Au24 SX struck a fluid and natural balance of ease, articulation, and immersiveness. Superb. Flexible and easy to handle, too. (269)

### Analysis Plus Big Silver Oval \$2038/8' pr.

Brimming with resolution, tonal honesty, and dynamic life, constructed of pure silver over a stabilizing strand of OFC woven into AP's patented hollow-oval geometry in an oval-coaxial configuration, this is not a cable you listen to, but rather listen through. Music simply flows; tonality is earthy; harmonics align; images and soundstage conform. No snake oil here—

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the high end needs more of this level of honest performance at a reasonable price. (215)

### VooDoo Stradivarius Amati

\$2200/1m RCA/pr; \$2400/1m XLR

VooDoo's Stradivarius Amati offers up a ripe, full-bodied, colorfully detailed bounty of musicality. Tonally, it plays it straight down the middle with no obvious frequency hiccups. It had a forward-leaning character that lends solo instrumentalists and vocalists energy and presence. On a scale of warm-to-cool, Amati tilts ever so slightly to the cooler range—a subtle trait perceivable during high-drive wind or brass passages or upper-octave violin solos. Of note is its midrange and lower-midrange eloquence that brings to life the deep voicings and trailing resonances of cello and bass viol and bassoon or the throaty bloom of a tenor sax. The Amati knocks on the door of some of the best cabling out there. (311)



### **Nordost Tyr**

Interconnect \$2324/0.6m; speaker \$5289/1m

A loom of Nordost's flat, FEP (fluorinated ethylene propylene) Tyr 2 interconnect and cable brings transparency, precision, purity, depth, texture, openness, and expansiveness to the listening experience. (305)

### Tara Labs Air Evolution

Interconnect \$2495/1m RCA w/ EVO ground station (\$250 per additional meter, \$60.00 for XLR termination); speaker \$4200 8' pr. (spades or banana)

Form a company with a track record as impressive as any in the high end, Tara Lab's Air Evolution opens wide the sonic window and conveys a rich, colorful tonality with clean textural shadings from the lowest bass to the uppermost treble.

Possessed of a neutral-to-warm character, its most delightful virtue is sound-staging. To borrow a phrase from the A/V world, this is full-on, uncropped, widescreen audio that delivers the full dimensions of a concert hall (and with the same musical naturalism encountered in a concert hall). By any standard, a significant achievement. (295)

### **AudioQuest Wind**

Interconnect \$2500/1m pr.

Wind features AudioOuest's best materials and technology, including Solid Perfect-Surface Silver (SPSS) conductors and the Dielectric Bias System (DBS) that polarizes the dielectric with a battery attached to the interconnect. This is an interconnect that competes with top-tier wire at a less-than-stratospheric price. Wind has very little sonic effect on the signals passing through it, and consequently, preserves the music's dynamic verve, spatial dimensionality, and timbral purity. It has a very clean, open, and lively sound, detailed and vivid, but not in an analytical way. If you want a cable that softens transients and removes a bit of excessive zip from your system, this isn't it. Wind is a great interconnect by any measure, and though not inexpensive, is nonetheless a superb value. (254)



### Morrow Audio Elite Grand Ref Interconnect \$2995/1m pr.; speaker \$3995/2m pr.

Sonically the Elite is the great, unpretentious communicator. Balance, smoothness, and honesty are its musical calling cards. The Elite is also one of the more forgiving and relaxed wires NG has come across. It has a civility that invites the ear to sink into the sound and luxuriate. Understated, but deceptively transparent, the Elite Grand Reference

offers a sensitive blend of spaciousness and dimensionality. (269)

### Wireworld Platinum Eclipse 8

Interconnect \$3000/1m pr., RCA or XLR; speaker \$22,400/ 2.5m/pr. single termination, \$22,500/2.5m/pr. bi-wire termination

Beyond its newly refined cosmetics, PE7 represents the summit of Wireworld's current thinking. Using heavy nine-gauge OCC Silver conductors (interconnects are 17-gauge OCC Silver), and its own Composilex 2 insulation and DNA Helix conductor geometry, PE8 has little to do with hype or spectacle. Its tonal palette is the height of consistency—there are no random color shifts across the musical spectrum. It's neutrally balanced with just a pleasing gust of midrange warmth. And it becomes ever more expressive in the treble octaves—to NG's mind audio's most precarious region, where most wires either narrow, bleach, or otherwise wring out the harmonic juices in the signal. Beyond its upper-octave performance, dimensionality and soundstaging are Platinum's most persuasive tools. It sets a symphonic stage with the same precision as the staff preparing the dining room table at Downton Abby. A component worthy of the designation, the state of the art. (244)

### Audience frontRow

Interconnect 1m RCA \$3300, 1m balanced \$3800; speaker 2.5m \$5500; frontRow powerChord \$6440/5' standard and \$5960/5' MP "medium power"

This new statement wire from Audience proved itself worthy of its name. Led by a full-throated chesty midrange, crisp highly focused imaging, and "you are there" transparency frontRow summoned up the electric excitement of live concert-going like few other cables NG has experienced. Always a strength with Audience cabling, dimensionality was even more extended and defined. With most wire there is often an awareness of limitations—whether they are frequency or dynamic restrictions, or transient speed bumps. But Audience's top-notch wire seems boundless in its responsiveness and musicality. Highly recommended for systems of superior resolution. (forthcoming)

### Analysis Plus Silver Apex \$3400 8' pr.

Silver Apex has one of the most open, natural voices NG has heard in a cable. Like AP's top-performing Micro Golden interconnect, its midrange is bold, ripe, and textured, with loads of inner detail. Neither romantically warm nor clinically cool Silver Apex simply goes in the direction of the recording without commentary. Treble octaves are expressive and colorful. In the bass, it intensifies the gravitas of low percussion—kettle drums, for example walking the fine line between power and control. Almost frictionless, Silver Apex adds no sense of drag to the signal, reproducing ensembles and cavernous acoustic spaces with speed, clarity, and fluency. Not inexpensive but still well within the bounds of high-end sanity, this is a flagship-level cable that can stand its ground with the best of the best. (301)

### Dynamic Design Titania AE15

Interconnect \$3500/1m pr.; speaker \$7000/2.5m pr.

An extrovert, the spirited Titania conveys a more forward, cooler sound, but proves electrifying in its presence, dynamic energy, and bass response. Indeed, sheer dynamism, presence, and transient speed are its strong suits. As a general observation, its soundstage didn't quite match the dimensional qualities of NG's reference cable; nonetheless, the Titania is one of the more purely exciting and toe-tapping cables in recent memory. (269)

### Kimber Kable Select

Interconnect KS 1036, \$3660/1m pr. RCA; KS 1136, \$3660/1m pr. XLR; speaker, KS 6068 \$27,800/2.5m pr.

Everything about this blue chip wire screams extreme. Vari-strand silver and solid-core silver conductors are used exclusively in its sophisticated construction. And yes, its price is breathtaking. Sonically, there's a lightning speed and feathery light-footedness to its sound. It has both a directness and a dimensional component that unerringly position every player on the stage. By virtue of its bottomless well of dynamic contrasts and tonal colors, the Kimber unearths previously unheard energy and atmospheric lift from even the most familiar recordings. The KS

achieves a level of intimacy and low-level clarity that is almost embarrassing in its candor. (250)

### Shunyata Sigma V2

Interconnect \$4000/1m RCA, \$5000/1m XLR; speaker \$9950/2m

The original Sigma signal cables I reviewed in 2018 performed so far above their price level that I gave them a GEA that year. The new V2 generation performs considerably better across the board. Retained are patented technologies such as TRON, which cancels a charge buildup in the dielectric materials, and the V2 now has two, instead of one, Transverse Axial Polarizer modules, which blocks glare-causing longitudinal-oriented electromagnetic waves from disrupting the signal. The V2 speaker cable gets two return signal-reflection-reduction HARP modules instead of one, and the new VTX-Ag conductors now have concentric OFE copper surrounding a core of pure silver for greater dynamics, timing precision, and 3-D spatial accuracy. Technology aside, these cables really deliver the sonic goods. They made my less-than-stellar system sound much closer to a super system than I thought possible, so well did they tame underlying smear, grain, and glare that I hadn't previously realized was even there. More subtle details emerged with ease; dynamic timing became more coherent and cogent; spatial details became more apparent; and musical flow and expression benefited from greater overall accuracy. Prices have gone up, but the performance improvements actually outpace the price increase. (forthcoming)

### **WyWires Diamond**

Interconnect \$4495/1.2m pr. RCA and XLR; speaker \$7995/8' pr. Diamond is a Litz-wire air-dielectric design incorporating tiny, individually insulated strands of ultra-pure copper. Impeccably assembled it is also a cable of ultra-wide expressiveness and resolution. Its sound is settled, fast but not twitchy or brittle and utterly devoid of histrionics. In tonal character the Diamond edges toward the warmer side of the spectrum but only by a breath. It's not forward-leaning, but it doesn't flinch from hard rock sizzle or flesh-eating dynamics, either. Its approach embodies a softer sell that

grows ever more multi-faceted, musical, and transparent. A cable for connoisseurs. (264)



### **Esprit Audio Lumina**

Interconnect \$5330/1.2m pr.; speaker \$5060/2m pr.

From the gleam of its connectors and carbon-fiber accents, everything about Lumina oozes quality and opulence. By ramping up the silver-plated, 6N-OCC-copper-conductor count, Lumina communicates a faithful tonal balance that hews ever so slightly to the richer, warmer-blooded, soothing side of the spectrum. Central to its character is the weight and intensity of its midrange, which, if it were a bar of chocolate, would be of a darker variety—complex and savory. There is density and foundation backing every note, and Lumina really sings on top, displaying a combination of sweetness and speed. Equally striking is its replication of dimension, distance, and soundstage. Top-notch.

### Analysis Plus Micro Golden Oval

#### Interconnect \$5494/1m pr.

It's said that silence is golden, a notion reinforced by the sonic stillness that defines the performance of AP's top-tier Micro Golden Oval interconnect. In this instance, it's also literally true, given the coating of pure gold over these interconnects' 18AWG copper conductors. Representing the most advanced version of the hollow-oval geometry AP has been honing over the years, the Micro Golden Oval's performance is stirring, warm, resonant, and as musically natural as NG has heard, making for a state-of-the-art contender. (272)

### Purist Audio Design Dominus Luminist Revision

Interconnect \$5970/1m pr. RCA.; speaker \$12,480/1.5m pr.

The all-silver Dominus is very detailed, very dynamic, very rich. Less open than Nordost Valhalla and darker in balance, it is also quieter, and because of its fluid-damped construction, virtually immune to floorborne and airborne vibration. (not reviewed)

### Transparent Audio XL

Interconnect \$6800/1m pr. RCA, \$12,000/1m pr. XLR; speaker \$19,000/8' pr.

AHC's general view of interconnects and speaker cables has long been that, while investing in high-quality wire is well worth it, the differences in sound and performance are often exaggerated and any major differences tend to be the product of coloration rather than real improvements. The new Generation 5 version of the Transparent Audio XL Cables has changed his mind. The interconnects and speaker cables can be set to match the loads and interactions of specific components, and the end results are clearer and more revealing than both the previous-generation Transparent and virtually all of competition he's had the opportunity to audition. Even if you are a cable atheist or agnostic, you should really audition the XL. No sonic miracles, but the kind of subtle real-word improvements in detail and lifelike musical dynamics than really matter. (264)

### Synergistic Research Galileo SX

Interconnect \$7500/1m pr. RCA; \$9500/1m pr. XLR; speaker \$17,500/8' pr.; AC \$6000/5'

Although it is a bit of a pain to use—because of the various grounding connections required—Galileo SX is less of a pain than previous SR wires, simply because the dielectric biasing circuit is built into each cable (saving you the bother of having to deal with all those little biasing boxes and wall-wart power supplies). More importantly, the UEF marks a dramatic shift in sonics, coming far closer to neutral in balance than the darker-sounding originals, without sacrificing any of the speed, richness, resolution, and power-range solidity that SR is famous for. (forthcoming)

### Nordost Valhalla 2 Reference

Interconnect \$8374/1m pr.; speaker \$10,599/1.25m pr., \$13,074/2m pr.; power \$5499/1m

Valhalla, the home of the Norse Gods, is exalted territory. The new Valhalla cable from Nordost safely occupies it. A mesmerizing cable, it provides thunderbolt dynamics and whiplash speed, probing deeply into the soundstage to excavate the nuances of the music. The old negatives that some previously associated with Nordost—a bleached treble and astringent transients—are simply not in evidence. Instead, the Valhalla represents a big leap in performance for the company. While it is not quite at the level of the company's new flagship Odin II cable, it features an upgraded dual-monofilament technology that employs ten silver-plated, 24AWG, oxygen-free-copper conductors. Valhalla 2 also features a specially designed Holo:Plug, a new connector that is designed to preserve signal integrity. The tariff is high, but then again so is the performance of the Valhalla. (254)

### Synergistic Research SRX

Interconnect \$12,995/1m pr. RCA and XLR; speaker \$29,995/8' pr.

Ted Denney & Co.'s latest creations, the tunable, actively shielded, multi-stranded, pure silver and silver/copper alloy SRX cables and interconnects, are the most sophisticated products Synergistic Research has developed since SR's original Galileo. They are also the best-sounding-by quite a fair margin. Sonically, what they remind JV of are CrystalConnect's Art Series Da Vincis—only they're half the money. No, they are not quite as low in noise or as high in dimensionality as the Da Vincis, which literally set the gold standard in these regards, but JV would bet that even a persnickety listener won't hear a \$10,000-\$20,000 difference between the two. Denney has long claimed that he offers wires that equal or beat the very best money can buy for half the dough. In this case, his boast is easily verifiable—all you have to do is listen. One of JV's references, and Denney's best effort yet. (forthcoming)

### Crystal Cable Absolute Dream

Interconnect \$13,300/1m pr.; speaker \$28,800/2m pr.

Since the arrival of Synergistic Research's

marvelous Galileo two years ago, JV hasn't dipped more than a toe into the cable and interconnect market—so satisfied was (and is) he with Ted Denney's truly ingenious masterpieces. But past history and curiosity got the better of him. As it turned out, all this was a very good thing, as Absolute Dream—which features monocrystal silver material not only for the conductor, but also tiny gold-plated monocrystal silver and silver-plated monocrystal copper wires for the shielding-is excellent: dead-quiet even on analog sources, extremely detailed, rich in tone color, and very lifelike on dynamics top to bottom (both low-level and high), with superb staging and imaging and unusually high transparency to sources. Like Galileo, Absolute Dream never "sits" on musical energy the way certain cables have; both are free-flowing and highly responsive to dynamic/harmonic nuances. One of the highest-fidelity cables and interconnects JV has auditioned. (234)

### Echole Limited Edition interconnects, speaker cables, and power cords

\$19,500 (3' balanced interconnect pair); \$23,500 (6' speaker cable); \$16,000 6' power cord

These ultra-exotic interconnects and speaker cables from Echole, sister company to Absolare, feature not just custom design and geometry, but custom metallurgy that includes silver, gold, and palladium. With a solid-core conductor so thick it's almost a rod, these cables are heavier and less pliable than most. Although priced at the upper end of the spectrum, the Echoles deliver first-rate sound quality. Rather than present a specific set of sonic characteristics, they seem to lower the level of noise and coloration, allowing the rest of the components in the system to better reveal the music's beauty. These are among the cleanest and most transparent cables RH has heard. (280)

### Crystal Cable Ultimate Dream

Interconnect, \$22,000/1m; speaker, \$43,300/2m

At its price, you would think this interconnect and cable—the fruit of Crystal Cable's Gabi Rijnveld world-class musical and aesthetic sensibility and her husband's, Siltech's Edwin

Rijnveld's, world-class engineering chops—would have all the understated grace and pliancy of a bar of solid gold. But, no, Ultimate Dream turns out to be elegantly demure, lightweight, and eminently supple. Yes, with the precious metals (gold-plated monocrystal silver, silver-plated monocrystal copper) it is made of gleaming through its transparent jacket, Ultimate Dream looks (let's face it) like audiophile jewelry. But its sound! This is the smoothest, quietest, least obtrusive customer JV has had in his system—it's just not there in any of the obvious ways that cables usually are. The spitty sibilance you hear from time to time with almost every other cable... gone. The etching or softening of image outlines and transient details...gone. The top-down or bottom-up tonal balance... gone. Unlike its slightly silvery predecessor Absolute Dream, Ultimate just doesn't seem to have a sonic signature. Of course, getting customers to sign their signatures on a credit card receipt is gonna be a neat trick for importer Wynn Audio. Nonetheless (and all practicalities aside), this is mighty fine stuff. (forthcoming)

### CrystalConnect by Crystal Cable Art Series Da Vinci

Interconnect cable \$23,900/1m pr. (\$7300 +0.5m); speaker \$46,500/2m pr. (+0.5m \$7900)

CrystalConnect and Siltech chief engineer Edwin Rijnveld's latest top-of-theline creations, the Art Series Da Vinci wires, are the quietest components of their type JV has ever heard. There are sound technical reasons for this: Edwin's Art Series DaVinci wires have a newly constructed dual-layer shield—one layer a mesh of pure G9 silver/gold-alloy strands, the other of pure MonoX silver—which provides verifiably wider immunity against EM and RF fields, lower ground impedance, lower inductance, much lower capacitance (three times lower than JV's previous reference Crystal Cable Ultimate Dreams), and lower current distortion. The improvement isn't only a matter of measurements on paper; it is as immediately audible as the shockingly deep silences of optical-cartridge playback are—and fosters the exact same impression of neutrality, completeness, and higher fidelity. Da Vinci is a genuine step forward in cable,

interconnect, and power cord design—not a different or more appetizing "flavor," but a lowering of the characteristic noises (and susceptibility to noises) that *give* wires their flavors. If you have the money and a near-psychotic lack of self-control when it comes to spending it, this is the cable JV would recommend. JV's reference. (forthcoming)

### Nordost Odin 2

Interconnect \$24,799/1m pr. (\$2750 per additional half-meter pair); \$32,999/1m pr. speaker (\$4400 per additional half-meter pair)

With the Odin 2, Nordost has taken an already formidable cable and pushed it into the stratosphere where it achieves dizzying levels of performance. Any lingering sense of aggressiveness and excessive friskiness in the treble region that existed with Odin 1 has been utterly effaced by Nordost's latest effort. What emerges with the new construction of this cable, which includes different terminations of the plugs and connectors, is a marvelously dynamic and pellucid sound that most of its competitors would be quite hardpressed to surpass, let alone equal. Add tautness of the bass and solidity of imaging, and you have a real winner. This is an immensely impressive cable that will take the finest audio systems to another level of sound reproduction. (270)

### AudioQuest Dragon Zero/Dragon Bass

Speaker \$27,500/8' pr.; Dragon Bass \$21,100/8' pr.; Dragon bi-wire combo \$48,600/8' pr.

This new top-level speaker cable from AudioQuest is easily the best cable the company has ever made. Dragon Zero features AudioQuest's finest materials and technologies, including its Solid Perfect-Surface silver conductors, Carbon-Based Noise Dissipation System, and the long-standing Dielectric Bias System. Its sound is extremely open and dynamic, as though a lid were removed from the music. The sense of transparency in the midrange and treble, and of unlimited top-end extension, is stunning. Although the soundstage is highly illuminated, Dragon Zero doesn't sound bright or fatiguing. Dragon Bass is designed to drive woofers or subwoofers in bi-wired

or bi-amped systems. Although it does a fine job in the bass, most surprising was its ability to render smoother midrange and treble textures, as well as increase low-level resolution across the entire band—a phenomenon attributable to the Dragon Bass' noise-reduction technology. RH's reference speaker cables. (RH)

### **Echole Infinity**

\$47,500 10' loudspeaker cable
Echole's top speaker cable features
custom metallurgy developed by Echole.
The primary conductor is a 2.1mm solid-core run of silver, gold, and palladium
custom alloy augmented by runs of
eight-nines-purity copper. The structure
is fully symmetrical and hand braded,
terminated with rhodium-plated Furutech
connections. The speaker cable is extremely transparent, faithfully conveying
whatever signal is fed to it. It has tremendous clarity and detail without sounding
analytical. A very musically involving and
rewarding cable. (forthcoming)

#### POWER CORDS

### Shunyata Research Venom 14 \$145

Shunyata's entry-level is a quantum leap over the standard, no-name cord. Flexible and UL-approved, Venom 14 adds transient pop and image stability, opens the soundstage, and peels away the veiling that inhibits transparency and resolution. A bit forward in character, the Venom 14 provides an excitement that really lights up the soundstage. Although low-level dynamics and deep bass could use further refinement, Venom 14 is an audiophile-level product that makes it fun to spend less. (208)

### Audience forte F3 powerChord

\$199/1.75m

Sheer excellence in the entry-level power-cord bracket, the Audience forte F2 powerChord is a definite winner. It will lift the performance of any system as it lowers the noise floor, improves transient attack, and permits a wider expression of dynamic contrasts and low-level details. The hot tip is opting for the Audience's forte V8 power strip, then this cord will be included. (311)

### Wireworld Electra 7

#### \$360/2m

Wireworld's line of power cords breaks with the conventional wisdom that says power cords need to be thick and unwieldy in order to impress. Not true. The mid-priced Electra 7s are defiantly flat, lightweight, and competitive with elite power cords costing many times their price. They possess a full-bodied, high-density sound with a rich midrange and naturalistic top end. Their pliability makes them a major advancement for today's well-groomed media rooms. (not reviewed)

### Kimber Kable PK-10 Ascent

### \$420/2m

The PK-10 Ascent picks up where the mean green original Palladian leaves off but in a more malleable, far less costly package. The Kimber is an exemplar of the heavy-hitting power cord—high output, energy and dynamics. It has a richer, thicker midrange with an emphasis on soundstage depth not unlike the topflight Palladian although not as wide open on vocals. But for bass extension and sustain, it is deserving of some of the highest marks. Nicely detailed and uncompressed with only vague remnants of treble peakiness, the PK-10 exemplifies an open, colorful, high-density sound that places it near the top of any survey. (208)



### Shunyata Research Venom NR10 and V14 Digital

### \$550, \$350

Advancements in its popular Venom line led to the creation of the NR Series (NR signifying noise reduction). Still modestly priced, NR power cords contain many of Shunyata's technologies and custom-manufactured parts, including electrostatic shields to reduce radiated noise. They are also Shunyata's lowest-price

power cables with built-in CCI filters, which measurably reduce power-line noise generated by components. In the areas of instrumental timbre, sensitivity to micro-dynamics, and overall tonal refinement, NR power cords provide a clear improvement over Venom HC cords The results are especially transformational when the Venoms are paired with Shunyata's own power conditioner, the Hydra Delta D6, as a complete system. (305)

### VooDoo Infinity Power/Digital and Air Spectra

### \$700-\$900 and \$2000

Compared with stock power cords, going full VooDoo is a little like squeegeeing the windows and grabbing a dustbuster. The common perception of images sounding pinched or constricted is largely reduced. The interplay between musicians, orchestral sections, and the ambient space between sections grew just a little more open and layered, even more so with Air Spectra. The VooDoo cords imparted a slight forwardness that tended to close the distance between the stage and the listener. They suggested a cooler overall tonal character, not laid back or overly dry but leaning toward a more clinical and precision interpretation of the music. Transients were quick and dynamics very good. Bass response overall was well extended, controlled, and timbrally exacting. In a hobby where even the smallest component can add something magical, this is precisely what adding a little VooDoo can do. Infinity is available in power and digital versions (284)

### Audience Studio One power-Chord

## Studio One MP powerChord, \$1474 for 5'; Studio One LP, \$1329 for 5'; Studio One Full Power, \$2549 for 5'

The new Studio One version of Audience's already superb Au24 AC cords render an across-the-board sonic improvement. Based on the original design of multi-strand conductors and high-purity mono-crystal copper, the Studio One brings to the table new connectors with higher-quality metallurgy and lower-mass terminations. Moreover, Audience now offers the Studio One in three versions, low-power for DACs, pre-

amps, and phonostages, medium-power for lower-powered integrated amplifiers, and high-power for power amplifiers. The lower-powered versions not only sound better on low-current consumption sources, they are less expensive. In any configuration it delivers a low noise floor, neutrality, and an almost preternatural sense of recorded space and ambience. Beyond that is a stronger micro aspect that hones in on images with incisive focus and seemingly effortless flow and immediacy. Last but not least. these cords are one of the most flexible available, very handy for angled runs. (219, 245)



### Furutech DPS-4.1

#### \$1680

Everything that goes into DPS-4.1 can be purchased direct-online, or through its dealer network, and is available to home users interested in finishing their own custom lengths and terminations (and are handy enough with a crimping tool and a soldering iron to complete the task). Imbued with an arresting sense of acoustic openness, DPS-4.1 firmed up bass response and plumped up body in the midrange, adding gravitas to the resonances of stand-up acoustic bass. As veiling is reduced, it also enhanced micro-information. The home-assembly approach of the DPS-4.1 is not for everyone, but for those of us who are more hands-on, Furutech performs on a par with some of the top contenders currently available, at a considerable cost savings. (317)

### Nordost Tyr

#### \$3079

Like Nordost's Tyr interconnect, the Tyr power cord adds transparency, precision, purity, depth, texture, openness, and expansiveness to your listening. (305)

### Harmonic Technology Magic Power III AC 10

### \$3100/1m

Designed for use primarily with front-end components, the Magic Power IIIAC 10 delivers tremendous clarity, smoothness, and definition across the entire frequency spectrum, and does so without constricting dynamics or softening the treble. Built-in noise filter acts as an AC conditioner to remove line noise. (not reviewed)



### Shunyata Research Sigma NR V2

#### \$3500

Shunyata continues to push forward the state-of-the-art in AC power for audio, with the Sigma NR V2 being a prime example. These AC cords incorporate noise filters right inside the connectors, acting as miniature power conditioners to isolate components from noise. The build-quality is outstanding, with all custom parts including the carbon-fiber housing. The Sigma NR bests Shunyata's previous models by deepening the background, increasing resolution at the lowest levels, rendering textures more realistically, and allowing the rest of your components to sound their best. (311)

### Clarus Concerto

### \$3600

The Clarus Concerto is an unassuming, but well-made, rack-mountable module with a power switch and dimmer button on the front, and a clever and unique cable-support bar on the back that prevents the dreaded heavy power cable droop we all know and hate. The Concerto offers a total of eight outlets, separately specialized for high current, digital, and

analog sources. Clarus' five-tier approach to conditioning lowers the noise floor without restricting dynamics (to a point). Reviewer Matt Clott's digital and analog sources benefited from what the Concerto provided: blacker backgrounds, more dynamics, and a cleaner canvas upon which to paint the music. Image specificity was also heightened and the stage seemed to take a step closer to the back wall. (306)

### AudioQuest Dragon Constant-Current AC Power Cable

### \$4500/1m; high-current model: \$5500/1m

AudioQuest has certainly broken new ground with the Dragon cord. It features fire and fury in the form of superb dynamics, but also a low noise floor that allows you to hear much further into the soundstage. Small details and nuances that were previously obscured or smudged emerge with pellucid clarity. But it is the smoothness, the lack of grain that the Dragon imparts to the overall sound that is its most beguiling quality. In a crowded field of competitors, the Dragon may well be at the top of the heap, at least for now. (291)

### Audience Au24 SX powerChord

\$5060/6" (MP version, \$4621/6') Au24 SX represents Audience's latest wire geometry and isolation technology. It is double cryogenically treated in-house. Compared with forerunner SE, SX presents an even-lower noise floor-a virtual black sea of calm. With such a reduction in grunge and glaze the acoustics and ambience of a venue are revealed—like the dark silences that precede the lifting of the conductor's baton. The upshot is a soundstage of rock-solid stability and continuity that is ripe with low-level micro-detailing and transient attacks. The final and perhaps key distinction observed with the SX is the more fully realized sense of dimension and focused depth that accompanies a great orchestral performance. A state-of-the-art c[h]ord. (291)

### Synergistic Research Galileo SX \$6000/5'

Like its new SX cables and interconnects, Synergistic's Galileo SX power cords make components sound exceptionally neutral, powerful, fast, spacious, and detailed. (244)

### Shunyata Research Omega XC, Omega QR-s, Omega QR

### \$7000/\$7500/\$9000

The Omega series of power cords are easily Shunyata's finest effort to date. They are packed with Shunyata's most advanced technologies and construction techniques, resulting in power cords that have a profound effect on a system. The Omega cables reduce noise to such low levels that previously unheard musical details emerge. Music's micro-structure is revealed with greater clarity and vividness, infusing instrumental textures with greater life and realism. This increased detail resolution extends to spatial cues; the Omega greatly expands the soundstage depth and dimensionality. The sense of three-dimensional space is uncanny. Instruments toward the back of the hall are rendered with tremendous air, depth, and clarity. Three iterations of Omega are designed for specific applications. RH's reference.

### Crystal Cable Absolute Dream \$9790/1.5m

Power cables are among the hardest products to review in that they take time to "break in" and, sonically, do not always progress in a straight line. Absolute Dream—the power cords intended to accompany Absolute Dream cable and interconnect (and constructed, like the signal wires, of monocrystal silver)—is such a one. At first, it sounded very close to JV's reference Shunyata/Synergistic Research cords; then it developed a power-range/bottom-end leanness that perplexed JV (as the Absolute Dream cables and interconnects never sounded lean or stinting); and then, after a couple of weeks of use, it rounded back into form, filling out in the lower mids and upper bass and developing considerable wallop in the mid-to-low bass. At this point, the Absolute Dreams are true contenders—delicate, detailed, powerful, spacious, and transparent. (234)

### Synergistic Research SRX

### \$10,000/6

Just like the SRX cables and interconnects, these SRX power cords are the best products Synergistic has yet developed. Once again, they come a whole lot closer than shouting distance to CrystalConnect's fabulous Da Vincis (see below)—only they cost half as much. An ultra-high-end bargain if ever there was one, assuming, of course, that 10g's for a power cord qualifies as a bargain in your bank book (and in your wife's pre-nup). (forthcoming)

### Crystal Cable Ultimate Dream \$15,970/1.5m

Like Crystal's Ultimate Dream cables, these gorgeous, pliable, beautifully made power cords—high-grade custom-made Oyaide plugs, monocrystal silver wire, solid-gold cores—have little-to-no obvious sonic character of their own. Silent and transparent, they transmit current freely and neutrally, without adding a top-down or bottom-up sonic signature to, or imposing any dynamic limitations on, what they're connected to. Certainly one of the finest pc's on the market, the Ultimate Dream is expensive, yes, but, for those with the dough and a system to match, worth it. (forthcoming)

### CrystalConnect By Crystal Cable Art Series Da Vinci

### \$19,000/1.5m (+0.5m \$4300)

As was the case with the cables and interconnects, Edwin Rijnveld's Da Vinci power cords banish noise, creating a depth of silence that allows music, music-makers, and venues to be more completely and neutrally reproduced. Just the best power cord (a whole lot of) money can buy. (forthcoming)

### **Echole Infinity**

#### \$24,500

Echole's top-of-the-line Infinity power cord features custom metallurgy developed by Echole. As with its speaker cable, the primary conductor is a 2.1mm solid-core run of silver, gold, and palladium augmented by runs of eight-nines-purity copper. The structure is fully symmetrical and hand braded, terminated with rhodium-plated Furutech connections. Sonically, it is outstanding. (forthcoming)

#### DIGITAL CARLES

### **Belkin Gold Series**

#### \$15/1m

Despite being ridiculously inexpensive, this cable was AT's reference for nearly two years. Though no longer the best USB cable available, in sonic and musical terms it continues to outperform and embarrass the vast majority of alternatives, regardless of price. A perfect first (and even last) USB cable. (226)

### Straight Wire USB-Link

#### \$50/1m, \$60/1.5m

This well-made, great-sounding USB cable is a relative bargain, delivering outstanding dynamics, timbral fidelity, and transparency. (not reviewed)

### AudioQuest Forest USB

### \$65/0.75m; \$80/1.5m

For those on a tight budget, Forest is a large upgrade over a generic USB cable that was never designed for audio. Compared to standard USB cables, Forest offers a larger and more dimensional soundstage, more liquid and lifelike timbres, and greater transparency. (not reviewed)

### AudioQuest Carbon USB

#### \$170/0.75m; \$220/1.5m

One of the go-to USB cables for computer-audio fans and highly recommended by USB pioneer and guru Gordon Rankin of Wavelength Audio, the Carbon is neutral without sounding bleached, dynamic without sounding piercing, detailed without sounding analytical. (not reviewed)

### Wireworld Starlight 8 Ethernet

### \$210/1m, \$270/2m

Wireworld's Cat8 ethernet cable is designed to propel data at up to 40 gigabit speeds. Starlight resides midway between entry-level Chroma and top-rung Platinum. With the more delicate information in a recording it exhibits an ease and lack of tension, plus a heightening of inner detail on things like the rattles of a tambourine, or the layering in a violin section, or the clarity of backup singers behind a lead vocalist. With Starlight, single-note lines or heavily orchestrated sections sing with the clarity and focus

of a Zeiss lens—no smear, no smudge. On the transient level, Starlight sharpens the attack of a piano, and seems to permit its soundboard to sustain and ring with harmonic energy just a little while longer. Does it leave any performance on the table? Well, there is Wireworld Platinum. (283)

### Straight Wire Info-Link AES/ EBU or Coaxial Digital Cable

### \$360/1m, \$490/1.5m

This reasonably priced digital cable offers a host of virtues, including high transparency to the source, spacious soundstaging, a treble that is open and detailed without sounding analytical, and wide dynamics. A bargain. (not reviewed)

### Nordost Heimdall 2 USB

### \$499/1m

Nordost's mid-line Heimdall 2 USB cable is capable of great detail, body, texture, and spatial resolution. The Heimdall 2 is also characterized by very low levels of grain, with smooth instrumental and vocal textures. (261)

### Wireworld Platinum Starlight 8 USB2.0

### \$500/1m

The seemingly minor differences between Wireworld's Silver and Platinum Starlight models yield a major sonic impact. In AT's experience, the Platinum Starlight has no peer in soundstage size, airiness, tempo tracking, dynamics, bass pitch, timbral realism, and lack of grain. In short, this cable takes USB audio to a new plane of fidelity. AT's new reference. (226)

### Clarus Cable Crimson USB

### \$525/1m

Clarus Cable has quickly gained a well-deserved reputation for stand-out performance at reasonable prices (reasonable for the high end, anyway). The Crimson USB nails the midrange with a fullness of body, warmth, transient alacrity, and overall honesty that calms the mind and relaxes the ear. I was struck by how persuasively warm and articulate this cable was. Its overall balance and light touch with difficult-to-capture vocal sibilants were excellent. The Clarus is an authentic bargain with performance that flirts with top-tier cables. A terrific

upgrade cable (a standard-setter in this range) for new and experienced computer-audio fans alike. (254)

### AudioQuest Diamond USB

### \$650/0.75m; \$800/1.5m

This pricey USB cable is simply revelatory in its combination of ease and refinement on one hand, and resolution and transparency on the other. Although capable of resolving the finest detail, Diamond USB has a relaxed quality that fosters deep musical involvement. Expensive, but worth it in high-end systems. (221)

### Wireworld Platinum Starlight 8 Ethernet

#### \$850/1m

Designed for top-flight network streaming rigs, Platinum registered as a significant step up from Wireworld Starlight 8. Platinum, which boasts OCC-7N Solid Silver conductors, extended network performance by instilling a sense of musical fluidity, ease, and continuousness across the stage to each performance. It adds that final dollop of resolution that you might not have known was missing. NG

### Audience frontRow USB

### frontRow USB \$1300/1m (plus \$75 per 0.25m)

Don't listen to the frontRow USB in your system unless you're prepared to shell out the long green. The frontRow is expensive, but worth it. The first thing you'll notice is that the frontRow has two jacketed sets of conductors rather than one. One set carries the signal, and the other, power. Frankly, there's nothing to fault in the frontRow USB. Many USB cables—as with everything else in audio-force you to make tradeoffs: This cable has better resolution, while another may have greater smoothness and ease. The Audience cable seemingly does it all; it is convincingly superior in every sonic criterion. The frontRow USB is priced at the very top end of the scale, but if you want a no-compromise USB cable, look no further. (Au24 SE+ reviewed in 254)

### Wireworld Platinum Starlight 8 SPDIF

### \$1500/1m RCA or BNC

Equipped with high-performance parts like carbon fiber plugs and OCC-7N Solid

Silver conductors, Platinum Starlight gave the digital signal the luxury ride it was meant for–fast, smooth and effortless. Suitable for top-flight systems, Platinum Starlight 8 ensures you won't miss a byte. NG

### Shunyata Sigma USB

#### \$2000

Shunyata has made some great products over the years, but the new Sigma USB may be the company's single best achievement yet. Replace any USB cable with the Sigma USB and you'll hear a significant improvement in soundstage openness, dynamic contrasts, and textural liquidity. RH's reference.

### AudioQuest Wild AES/EBU

### \$2475/1m

Wild is packed with AudioQuest's topshelf technologies, including its Perfect Surface Silver conductors, 72V Dielectric Bias System (DBS), Noise Dissipation System, and cold welding of the conductors to terminations machined from high-purity copper. The sonic result is the best AES/EBU cable RH has heard, with ultra-fine resolution of detail and a finely filigreed top end that allows highest-quality DACs, such as the dCS Vivaldi and Berkeley Alpha Reference, to sound their best. Expensive, but worth it. (not reviewed)

### Synergistic Research Galileo SX USB

#### \$2995/1m

Though scarcely a digital maven, JV has tried any number of highly touted USB cables on the sly. The only one he truly likes is Galileo SX—and then only when it is run from a computer source to Berkeley Audio's USB-to-AES converter. Synergistic's top-line USB cable offers the same virtues as its other Galileo SX products—power, speed, resolution, spaciousness, and tonal beauty. With digital, that gorgeous tonality really pays off. (not reviewed)

### Shunyata Research Omega USB \$3250

This USB cable is so much better than any other USB cable RH has heard. It is so good it may even be the most outstanding product Shunyata has produced—and that's saying something. Omega simply

doesn't have the "chalky" midrange and treble that plagues the USB interface, replacing that graininess with smooth liquidity. Dynamics are stunning, and the bass extends to the netherworld.

### Transparent Audio XL Digital

### \$3670/1m, XL 75-ohm (\$1300/add'1 5') \$4195/1m, XL 110-ohm AES/ EBU (\$1700/add'1 5')

When used on the dCS Vivaldi CD/ SACD system, these cables immediately improved the depth, width, and transparency of the soundstage. Transient speed was also markedly crisper than with stock cables or, for that matter, just about any other digital cable that JHb has used. The treble is noticeably smoother, and the bass firmer and more refulgent with Transparent. Most impressive is their ability to add another layer of dimensionality to the sound, rendering it more tactile and bringing the listener one step closer to the emotional heart of the music. Nothing else seems to capture timbral fidelity as successfully as Transparent. For anyone with a top-flight digital rig, auditioning these digital cables is not an option. It is a must. (239)

### HEADPHONES AND

### Grado SR325x

#### \$299

All Grado's headphones are based on the same basic design that uses similar yokes, headbands, and enclosures. The new 325x features Grado's fourth generation of proprietary drivers. The Grado SR325x modernizes the Grado headphone sound that I've been accustomed to hearing for the last twenty years with some additional bass energy and an attempt at additional comfort. For those listeners who found older Grado designs lacked sufficient bass energy, the SR325x could be the answer.

#### KLH Ultimate One

### \$299

The Ultimate One's design is built around a 50mm (2-inch) "pure beryllium" driver with a frequency response of 18Hz–22kHz (±3dB) and a high sensitivity specification of 97dB. The fit

and finish of the Ultimate One is exceptionally fine, especially considering its price. If you are looking for exceedingly comfortable, exceedingly affordable, open-backed, over-ear headphones that deliver a relaxed and musical presentation, you would do well to give the KLH Model Ones a try.

### PSB M4U 8

#### \$399

The Paul Barton-designed M4U 8 is an upgrade in features, technology, and performance from PSB's M4U 2. The M4U 8 retains the M4U 2's extended and neutral tonal balance, ease, and non-fatiguing treble, but adds more dynamic and extended bass response, plus an even more relaxed midrange and treble without giving up any air or resolution. The inclusion of Bluetooth connectivity adds to the value. What is more, the M4U 8 is an active noise-cancelling headphone with three operating modes: a good-sounding Passive mode, an Active mode sans noise-cancellation (for purists), and an Active Noise Cancellation mode that works very well to suppress background noise.

### **NX Ears Opera**

#### \$799

NX Ears are a new entrant into the in-ears marketplace. The principals have been involved in earphone design for some time as the principal acoustic design team for NuForce, Erato, and Verse earphones. What makes NX Ears unique is their primary focus on alleviating the negative aural effects of something they call "the occlusion effect," which is the pressure build-up in listener's ear canals caused by low frequencies. They succeeded in most performance areas with an emphasis on Opera's exemplary soundstaging abilities.

### Campfire Equinox

#### \$1499

Although for \$1500 you have a lot of custom in-ear options, few offer the features and fit of the Equinox. For those audiophiles who want to hear all the low bass, treasure a large soundstage with excellent specificity, and plan to wear their custom in-ears for long, uninterrupted periods of time, the most-excellent Equinox ticks all those boxes.

### Shure KSE1200

#### \$1999

The KSE1200 electrostatic in-ear system not only includes in-ear capsules containing electrostatic elements; it also comes with a special amplifier, which supplies the power to energize the electrostatic elements and, via a volume control, set its playback level. In listening tests, the KSE1200 displayed all the audiophile-pleasing sonics that are characteristic of a good electrostatic transducer. Although the KSE 1200 would not be my first choice as a work-out exercise companion (due to the amplifier's size), if I wanted a completely portable electrostatic monitoring system with analog inputs for on-location recording and playback, the KSE-1200 would be my first choice.

### **ZMF Vérité Closed**

#### \$2499

All ZMF headphones are hand-assembled in small batches in the USA. The Vérité Closed was designed to compete with the best, and to Steven Stone's ears, succeeds. If you require a premium-quality headphone that has some attenuation of outside noise, that you can wear for hours at a time, and that has a relaxed and exceedingly natural harmonic balance while still having excellent low bass extension, the ZMF Vérité Closed should be on your audition list.

### Meze Empyrean

#### \$2999

From the beginning, the Empyrean was conceived as a cost-no-object headphone that would use the highest-quality materials to achieve world-class sound, extreme comfort, and a beautiful appearance. At the heart of the Empyrean is Rinaro's patent-pending, hybrid planar-magnetic driver that combines—on one diaphragm—two independently shaped voice-coil sections: a circular section optimized for upper-midrange and high frequencies; and a larger serpentine section optimized for mid/bass performance. By design, the circular voice-coil section is positioned opposite the wearer's ear canals to provide the shortest delivery path for critical transient, textural, and spatial information. The end result is a headphone that offers a fundamentally natural and organic sound but is also extraordinarily revealing and detailed. (298)

### Abyss Diana Phi

#### \$3995

The Diana Phi is an open-backed head-phone that delivers little or no isolation from surrounding sounds, which is good for situational awareness out in the world, but not so good for isolation. Sonically, the Phi is a knockout. You want really deep bass? It's there in abundance. Big soundstage? Check. Superb rendition of inner detail and low-level information? Phi's got it all. A superb reference-level portable headphone.

### Warwick Acoustics Aperio \$24,000

This state-of-the-art headphone system includes the headphones themselves along with an outboard amplifier that includes preamplifier functions as well as a DAC. No expense has been spared in the advanced engineering and lavish construction, including dual-mono design, highly regulated power supply, the latest DAC chips with ultra-precise clocking, and balanced circuitry. The preamp/amp/DAC can accept any digital format, including native DSD up to DSD256. The Aperio's sound quality is unequalled by any other headphone system. (300)

### HEADPHONE AMPLIFIERS AND DAC/PREAMPS

### Schiit Audio Magni3

#### \$99

For under a C-note, Schiit has created a headphone amp can not only power hard-to-drive headphones, but is also quiet enough to use with in-ear monitors. It sounds great, has surprisingly good build-quality, and delivers superb technical performance. The Magni3 offers excellent bass and sub-bass control, pitch definition, and drive, as well as a very dynamic upper midrange. The Magni3 provides a simple and cost-effective way to power a wide variety of headphones at or near their optimum sonic potential.

### Sony TA-ZH1ES

#### \$2198

The Sony TA-ZH1ES is not only a multi-output headphone amplifier, but also a DAC and an analog/digital preamplifier. With a total of seven output options, the Sony TA-ZH1ES can support every popular headphone termination scheme currently in use. I've never come across a DAC/headphone amplifier that can successfully drive a wider range of headphones. When you add its preamplifier functions to the package, you have a component that delivers an impressive number of features, flexibility, sonics, and overall value.

### Benchmark Media Systems HPA4

### \$2995 (Remote control option, \$100)

Benchmark decided to base its flagship HPA4 headphone amplifier on THX's HX-888 achromatic amplifier module, which is claimed to reduce distortion by 20-40dB through a patented feed-forward design said to yield the world's most linear amplification. The HPA4 is a balanced, high-voltage, high-current design, with a very high damping factormeaning the amp delivers consistent sound with low-, medium-, and high-impedance headphones. SS found the HPA4 to be "exceptionally good at presenting a layered, dynamic, yet relaxed sound." It also delivered extremely tight bass and clean, clear highs. In sum, this super-revealing amplifier shows everything there is to hear about the other components with which it is used. (293)

### Manley Labs Ultimate Amplifier \$4500

Most analog headphone amplifiers are simple affairs with a volume knob, some gain adjustments, and that's it. Then there is the Manley Absolute headphone amplifier. Sonically the Manley Absolute can be anything from a push-pull amplifier with 0.16% THD to a single-ended amp with 1.0% THD. Also, you have the option of adding up to 10dB of feedback. When you combine its unique looks with its abundance of features, you have a headphone amplifier that lives up to its name—ultimate.

#### PORTABLE PLAYERS

### Groovers Japan Activo CT10 \$299

The CT10 is the first high-resolution audio player under the Activo brand. Its quad-core CPU produces a snappy user interface and has enough power to process large high-res audio files. The CT10 was designed by Groovers Japan and iRIVER of South Korea (parent company of Astell & Kern) and features the new sound solution system from Astell & Kern, the Teraton TM200, which combines a DAC chip, an analog amplifier, an independent power unit, and a jitter-preventing clock to provide a single-chip solution for hifi audio playback.

### Fiio M11

#### \$499

The M11 is loaded with goodies including two AK 4493EQ DAC chips, an Exynos 7872 CPU, an FPBA-based system clock, both unbalanced and balanced analog outputs, 3GB of RAM, 32GB of ROM, a 3800mAh battery, and both 2.4 and 5G Wi-Fi capabilities, along with AirPlay and Fiio Link. The M11 supports PCM from 8Hz to 384kHz/32 and native 64/128 DSD but does not offer MQA decoding. The M11 can also serve as a USB DAC and USB-to-SPDIF converter. In short, the M11 offers a lot for under \$500.

### Sony NW-WMZ1

### \$3198

The Sony NW-WMZ1 portable player represents Sony's top-echelon portable-audio device. While not for everyone, the NW-WM1Z includes several unique technical accomplishments that make it special and noteworthy. The NW-WMZ1 does not support Wi-Fi, so it can't supply any direct-streaming for Tidal, access to a local NAS drive, or automatic firmware upgrades. While it has some limitations that may well affect whether you find the NW-WMZ1 to be your ideal portable player, if your principal concern is sound quality, the Sony NW-WMZ1 is the one for you.

### Astell&Kern Ultima SP2000

#### \$3499

The Ultima SP2000 is Astell&Kern's top of the line portable player. It features a AK4499EQ DAC chip, dual band Wi-Fi support, AK Connect for streaming from home libraires, 768/32 PCM and 22.4MHz DSD support, and it's Roonready. Using A&K's Open App Service, the SP2000 supports all major streaming services except Apple and Amazon. While weighty, regardless of which of the four finishes available, the SP2000 offers a level of finesse and transparency that few players can equal and could well be the last portable player you ever need to purchase.

### **ACCESSORIES**

### AcousTech Electronic Stylus Force Gauge

#### \$79.99

Getting the most out of any turntable requires an accurate vertical tracking force setting—and yes, kids, you can easily hear changes as slight as a tenth of a gram. Not only is AcousTech's new gauge a relative bargain; it is small, has a backlit display, is incredibly easy to use, measures weights from 0.001 to 5.000 grams at the height of an LP's surface, and is said to be accurate to within +/-0.002 grams.

### Aesthetix ABCD-1MC Cartridge Demagnetizer

### \$230

This battery-operated device sends a special signal through your moving-coil cartridge, removing stray magnetism in the coils. Used every two weeks or so, the ABCD-1 will restore tone colors and soundstage clarity. (For use on moving coils only.)

### Analogue Productions: The Ultimate Analogue Test LP

### \$40

Amazingly well-conceived as well as manufactured to the highest standards, The Ultimate Analogue Test LP is the new reference in test discs. It's loaded with useful test signals that are encoded with high precision, and the record is pressed on 180-gram virgin vinyl.

### Audience Au24SX Breakout Cable

### \$500/1m plus \$75 per 2.5m

This 3.5mm stereo plug on one end and a pair of RCA jacks on the other is made to the same standard as Audience's other top-of-the-line Au series, with 6N OCC copper, XLPE dielectric, solder-free RCA connectors, and cryogenic and extreme high-voltage processing in Audience's lab. Extremely detailed, free from grain and glare, and with gorgeous rendering of timbre. (RH, not reviewed)

### AudioQuest Super-Conductive Anti-Static Record Brush

#### \$30

This new and improved version of Audio-Quest's ubiquitous carbon-fiber wonder answers the burning question: "Does the AudioOuest Record Brush provide a 'good electrical path between the fibers and the handle?" Apparently the answer is "no," according to AudioQuest's Bill Low. Enter AudioQuest's Conductive Fiber Record Brush, which has "ideal conductivity from the Carbon Fibers." On first acquaintance, the only change JV noted was that the brush feels different (lighter and a bit flimsier) than the original. But who cares? You're going to buy one; JV's gonna buy one; anyone who listens to vinyl is gonna buy one. The thing is indispensable. (274)

### AudioQuest BPW Binding-Post Wrench

#### \$17.95

AudioQuest's binding-post wrench, featuring durable metal socket-inserts, eliminates the need for a bulky socket set. This compact double-ended nut driver, small enough to slip into a shirt or pants pocket, fits 7/16" and ½" binding posts. Essential for tightening down speaker cables to speakers and amps.

### AudioQuest Jitterbug FMJ

#### \$69.95

This little device looks like a miniature plug-in DAC, but actually fits between a DAC or USB cable and a USB jack on a computer, DAC, or music server. Its mission is to reduce jitter and isolate the computer from the DAC. Judging from its sonic effects, the JitterBug does just that, producing a smoother treble, deeper soundstage, and more relaxed and natural

presentation. A no-brainer recommendation for the asking price.

### AudioTools App

#### \$20

If you've had a desire to test, tweak, optimize, or even build your own music system from scratch, the tests included in the AudioTools App will make your job easier. All this ergonomic elegance can be had at a price that makes standalone test gear almost obsolete.

### Avid Level 45: 45RPM Adapter and Bubble Level

#### \$80

This two-piece kit combines a precision machined-steel 45-rpm adaptor with a high-quality bubble level. The level sits atop the 45rpm-adapter, which together weigh 180 grams—exactly the same as a high quality LP for accurate leveling.

### Acoustic Geometry Room Pack \$270–\$5759

This range of room-acoustic products brings professional-grade treatment to the home listening room. Designed by veteran recording-studio designer John Calder, the packages are built around bass absorbers (CornerSorbers), diffusers (Curve Diffusors), and mid/treble absorbers (Fabric-Wrapped Panels) in various combinations. Each Acoustic Geometry package is tailored to a specific room size, and the company will provide guidance on placement for your particular space. This takes the guesswork out of choosing just the right products and where to position them. The result of the full package (the Pro Room Pack 12 in RH's case) is a dramatic transformation compared with the sonics of an untreated room. The CornerSorbers are amazingly effective at reducing boom and bloat, resulting in tighter and more tuneful bass with superior transient fidelity. The Curve Diffusors, which also incorporate some bass absorption, further improve the bass but more importantly greatly improve soundstage depth and width, increase the impression of the sound existing independently of the speakers, and clarify the individual tone colors of various instruments. The Acoustic Geometry products are attractive, effective, easy to use, and reasonably priced for their performance. (290)

### A/V RoomService Equipment Vibration Protectors (EVP)

### \$95/each EVP 4" HD (4 per speaker); \$29/each EVP 2" MD

Don't confuse these two-inch tall pads with typical couplers like spikes and footers. EVPs are decouplers and according to A/V RoomService their energy absorption properties are tested, known, neutral, and consistent. Constructed of a unique sandwich of materials, they dependably removed a light veiling around musical images. While the EVP's didn't change the inherent tonal balance of a loudspeaker—it did restore a level of musical and harmonic complexity that made the loudspeaker into a more satisfying version of itself. (290)



### Block Audio C-Lock Connection Guard

#### \$49-149

Loose-fitting or sagging outlets? C-Lock is an outlet plate with an integral, adjustable "lock-socket" system that clamps down on the male end of a power cord and draws the blades of the power cord fully and firmly within the receptacle. Suffice it say C-Lock works as intended. Like formal wear for the well-dressed system, it completes the chain of connections with panache. (311)

### **Blu-Tack Adhesive Putty**

#### \$10

The original acoustic putty and adhesive from Bostik of England that damps resonances and mechanically couples a compact speaker to the top plate of its stand. Sonically you'll hear tighter bass and improved image. Considered "a flexible semi-liquid that behaves like a solid" it also offers a safety bonus by preventing a stand-mounted speaker from being inadvertently toppled.

### Caig DeoxIT

#### \$33

Caig's DeoxIT has long been the go-to lubricant for cleaning, preserving, and conditioning all electrical connections. Packaged in a handy dispenser bottle with a little applicator-brush built into the cap, it can and should be used for any junction (short of an AC wall socket) where a metal connector (like the male RCA plugs of your interconnects) is plugged into a metal socket (like the female RCA plugs of your preamp, amp, or CD player).

### CAD GC1

#### \$1850

The CAD (Computer Audio Design) GC1 ground control device is a classic black box, intended to reduce high-frequency noise on the signal ground plane of the component(s) it is connected to. JV doesn't completely understand how this passive device works; he only knows that it does work with most components, markedly reducing background hash, enriching timbre top to bottom, and adding a touch of three-dimensionality to voices and instruments. JV

### Cardas RCA Caps

### \$60 (set of 12)

Pop these RCA shorting plugs into your preamplifier's unused inputs and you'll hear a blacker background, more micro-dynamic detail, and an overall cleaner sound.

### Clearaudio Strobo-disc and Strobe Light

#### \$75 and \$200

Featuring grooves that create the additional stylus drag necessary to accurately measure your turntable's speed—while at the same time doubling as a cartridge

break-in device—Clearaudio's Strobo-disc and Strobe Light are great tools for the serious vinyl junkie.

### Composite Products Carbon-Fiber Cones

### \$75 (3-Pack)

Made from layers of carbon-fiber cloth bonded into a solid with epoxy, the Composite Products Carbon-Fiber Cones are extremely stiff and well damped. Place a set under a component to reduce and damp vibrations.

### Critical Mass Systems Center-Stage 3

**\$960 (0.8"); \$1780 (1"); \$2780 (2")** per set of four

When placed under components, these small isolation devices produce an outsized effect on the sound. The bass becomes more solid, textures more finely rendered, spatial cues more vividly realized, and images within the soundstage more tangible. RH

### DS Audio Ionizer 001 \$1795

A fabulously effective device that sits beside and above your turntable platter and continuously showers the surfaces of LPs with ions and cations like a nonstop Zerostat, the DS Audio Ionizer 001 not only lowers noise; it also increases the neutrality and organicism of what's recorded to an extent that you simply have to hear to believe. If the absolute sound is what you're after and you're a viny-lover, this is one of the greatest tweaks JV has come across. (313)

### Fong Audio Out of Your Head Software

### \$149 starter kit, additional speaker settings are \$15 to \$25 each

If you have a great pair of headphones that you should be listening to more than you currently do, perhaps the addition of Darin Fong's OOYH app to your computer playback rig could re-energize your headphone consumption. I've found that using OOYH with Hulu definitely made watching movies on my 26" computer monitor a more involving cinematic experience than using headphones without it. Adding Darin Fong's Out of Your Head application to your sonic arsenal will enhance your pleasure, bigly. And since you can test it

out, anytime, on almost any system via the demo page, you don't have to take my word—just try it. I guarantee that Darin Fong's OOYH app will get that headphone sound out of your head. (276)

### Fosgate Fozgometer \$300

Adjusting for correct cartridge azimuth (axial tilt) is the bane of an audiophile's eyeballs. However, the Fozgometer, Jim Fosgate's ingenious and fairly priced Azimuth Range Meter, is designed for even the most astigmatic user. Used in conjunction with *The Ultimate Analog Test Disc LP*, it diagnoses azimuth irregularities by accurately reading channel separation and channel balance, as well as signal direction. Nicely finished with a large readable meter. Operation is a snap. A battery-operated essential. (206)



### Furutech GTX DR NCF AC Duplex Wall Outlets

#### \$280

Furutech has taken the humble outlet and run it through a gauntlet of refinement far beyond what most of us can imagine. Performance-wise, there's no doubt that the Furutech removed a layer of low-level grunge from the sonic window, reducing noise across the soundstage. Like a sonic dust cloth, it made images clearer and more tangible. While the Furutech GTX is not cheap, its uncompromising quality and high performance make \$280 seem like a small price to pay. (291)

#### Furutech NCF Clear Line

### \$250

Described as an "audio-grade passive AC optimizer," the NCF Clear Line simply plugs into any vacant receptacle on a power distributor or wall outlet. The difference between Clear Line "in" and Clear Line "out" was one of focus and air between images, the way it measures



the perimeter around each sung note and the clarity of the space between them, and a more definitive sense of layering and transient immediacy. Sensible, cost-effective, and once heard, difficult to part with. (317)



### **Groove Tracer**

Reference subplatter, \$275; Delrin platter, \$350; record weight, \$125; universal counterweight, \$189

These beautifully made, highly effective tweaks for Rega turntables add more ambience, air around and between instruments, three dimensionality, tonal accuracy and richness, as well as dynamic weight and impact to vinyl playback. Highly recommended. (309)

### Jolida Foz-XT-R

#### \$450

Crosstalk is as deleterious in audio as it is in marriages or politics. In playing back vinyl, it is a direct result of one channel outputting more than another. This results from a difference in coil windings in the cartridge, which are fiendishly tricky to construct by hand. Unlike digital playback, getting it perfect is a hit-and-miss affair. Most audiophiles have traditionally relied on cartridge setup to tweak for a discrepancy in channel imbalance. The Foz-XT-R sets out to remedy this situation. It is inserted between the output of the phonostage and before the input of the preamplifier. The Foz gives you the chance to adjust each channel separately to fine-tune it to perfection. Both soundstage width and depth improve with the insertion of the XT-R. A remarkably ingenious product, it deserves to be auditioned by pretty much anyone intent on improving analog playback. (270)

### Kate Koeppel Design LP Organizational Solutions

### Prices vary by product; approx. \$43-\$410

San Francisco-based Koeppel Design has carved out a niche designing and manufacturing high-quality organizational solutions for collectors of music and other media, ranging from assorted record dividers with engraved or stenciled cut-out letters to stackable storage crates and more. Audiophiles will appreciate the careful craftsmanship and attention to detail behind the Koeppel products, but they are also functional: The dividers are built for the long haul, and to help your LPs last by distributing their weight among the wooden panels. Our reviewer adored the set of 26 alphabetical wooden LP dividers and the handy record tote bag. (270)

### Levin Record Brush

#### \$99-\$175

The ultra-expensive Levin is the *ne plus ultra* of hand-held record brushes. Handmade in Germany from your choice of exotic woods (thus the price range), the Levin is constructed from natural horse or goat hair with old-world techniques. To hold this oversized luxurious-feeling brush in your palm is to want one. RH

### Lyra SPT Stylus Cleaner

#### \$60

Mission accomplished. Puts the fluid where it belongs. Lyra's formulation scrubs each precious stylus clean without globing on and ultimately reducing the compliance of the cantilever. A tiny angled brush is included.

### Marigo White 3mm Tuning Dots \$39 (set of 12)

These tiny, adhesive, constrained-layer resonance-control "dots" provide an effective bit of damping to tubes or signal connectors that may see airborne or floorborne vibration, even if isolated on stands. Also useful on the headshells of tonearms or, judiciously applied, on the top of phono cartridges.

### Mobile Fidelity Record Brush

The Mobile Fidelity record brush is the next-best thing to a record-cleaning machine. It works with dry records for a quick dust-off before dropping the stylus, as well as with a liquid for deeper cleaning. The well-designed handle makes it easy to use, and the Mobile Fidelity Record Brush is inexpensive, to boot.

### Mobile Fidelity Rice Inner Sleeves

#### \$20 (50-pack)

A precious collection of LPs is only as good as its scratch-free surfaces. Offered for decades, Mobile Fidelity's familiar rice paper-style inner sleeves are renowned for their anti-static properties that avoid drawing dust and grit into the delicate grooves. The archival sleeves to beat.

### Mobile Fidelity Stylus Cleaner \$24.99

This "brush-in-a-bottle" cleaner effectively removes crud on your stylus and is so easy to use that you'll get in the good habit of cleaning the stylus before playing each side.

### Nordost Qkore Grounding System

### Qkore1 \$2499, Qkore3 \$3499, Qkore6 \$4999

The Qkore grounding system truly demonstrates that silence is golden. It represents an ingenious attempt to combat the electronic nasties that conspire to corrupt the sound of electronic musical reproduction. Unlike many products that purport to produce a purer sound, the Qkore is a non-invasive grounding device that you plug into an unused input on a stereo component; it produces no extra-musical artifacts of its own. What it does is create a much blacker background from which the subtlest of



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details emerge with elegance and refinement. Every part of the sonic spectrum will also sound fuller and more transparent. For any high-end enthusiast seeking to improve his system, this is an essential component. (283)



### Nordost QRT QPoint/QRT OSource

#### \$749/\$2499

This amazing modular system is intended to synchronize your stereo system by emitting an electrical field that manipulates the electromechanical resonances in its immediate vicinity. It is best placed below audio equipment, where it can exert its salubrious effects. While it cannot be deemed an essential product like power cables or wires, it appears to widen and deepen the soundstage as well as add some to dynamic heft to recordings. Given the inherently controversial nature of such a product, auditioning is a must. But its efficacy is difficult to dispute, particularly when the QRT Source is coupled to a streaming device such as a Roon server. (309)

### Onzow Zerodust Stylus Cleaner \$39

Not a fluid or brush-based stylus cleaner, the Zerodust uses a polymer bubble that gathers debris onto its ultra-soft surface. A winning alternative for those concerned with overusing liquid cleaners that can leave residues and build up over time. Zerodust can be cleaned with tap water and a magnifier is included.

### Prather Design LP Racks

### \$20-\$897

This extensive line of beautiful handmade wooden LP racks run the gamut from a single "now playing" LP holder to storage for a full collection. Whichever you choose, the craftsmanship and quality are superb. (284)

### **Q-Up Tonearm Lifter**

#### \$50

A little device that you attach near the pivot of your tonearm to automatically lift the stylus off the record at the end of an LP side. A boon to the analog lover—and the lazy. (245)

### Ramar Record Brush

#### \$349

The LP record brushes from Ramar are characterized by their unique brush trim and aesthetics. Handles and cases are made of solid wood, milled from a single wooden blank, impeccably oiled and finished, and offered in a choice of walnut, cherry, or ash. The bristle cover is aluminum and coated with electroless nickel. Whether picking up fine dust or larger dirt particles, the unique mixture of carbon fibers and goat hair carefully removes every obstacle from the grooves of the record, and picks it up safely. Headquartered in Germany, Ramar specializes in audiophile designs of great functionality and timeless design with new and innovative products currently in development. (forthcoming)



### RevOpod Damping Feet

### \$1200-\$1295 depending on finish (set of four)

This intricately built mechanism for dissipating vibration in audio equipment is made by Arya Audio of England. The conical-shaped device can sit under a component, or screw into the component's chassis in place of stock feet. Each set of four comes with a variety of threaded adapter posts to match the thread size of your equipment. The RevOpod is built from 35 separate parts and assembled to very tight tolerances. An ingenious feature allows each RevOpod to be height

adjusted in 50-micron steps. Various finish combinations are available. The RevOpod renders big gains in transient speed, resolution of micro-detail, and silent backgrounds. (312)

### Shakti Electromagnetic Stabilizer Stone

#### \$230

Ben Piazza's Shakti Stones employ "proprietary noise-reduction circuitry to absorb and dissipate electromagnetic interference (EMI) and radio frequency interference (RFI)." In other words, nobody's quite sure how they work. But work they do when placed over the transformers of amps, preamps, and other electronics, reducing noise and enriching timbre.

### Shure SFG-2 Stylus Force Gauge

### \$40

Although ultimately not as accurate as the best digital gauges, the classic "teeter-totter" Shure is simple to use and cheap, and does the trick very nicely.

### Soundsmith Counter "Intuitive"

#### \$49

The Counter "Intuitive" is a polymer damping ring designed for VPI tonearms that fits around the counterweight and allows for very fine, fully independent adjustments of tracking force and azimuth by simply moving the ring forward or backward, or by gently rotating it. A self-adhesive scale applied to the counterweight allows the user to mark settings for specific cartridges and VPI armwand combinations. An elegant solution if ever there was one. (216)



### SteinMusic Pi Carbon Signature Record Mat

#### \$650

It may seem ridiculous to spend \$650 on a piece of paper (albeit a thick, carbon-fi-

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#### **ACCESSORIES**

ber-impregnated, proprietarily varnished piece of cloth-like Japanese tapa paper), but if you value the illusion of the real thing—and, in particular, the organic continuousness of musicians making music ensemble in a real space—then inserting the Pi between platter and LP is worth every penny asked. (315)

### SteinMusic DE-3 LP Conditioner \$2798

With the press of a button, this simple platform from SteinMusic "de-magnetizes" LPs (yes, traces of metal in the paint used to color vinyl do acquire a magnetic charge, which in addition to increasing static can interact with the magnets in your cartridge). It may sound like overkill but, in combination with a good record-cleaning machine like the Clearaudio Double Matrix Professional Sonic, the DE3 LP greatly reduces noise, deepening background silences and, thereby, raising resolution.



### Townshend Audio Seismic Podiums

### \$1750-\$4000 (varies according to size)

Townshend's unique take on speaker isolation is irresistible. Supported at each corner of the platform by Load Cells—a height adjustable and damped spring system—the Podiums are essentially colorless and inaudible. Any suggestion of sonic constraint or congestion simply goes poof. The soundstage is liberated from a subtle opacity and veiling—a feat that results in wider colors, broader micro-dynamic gradients, and greater dimensionality. Images emerge and recede naturally, and bass response, extension, and pitch flow more freely. The Podiums become so fundamental to the listening experience that calling them mere accessories fails to give them enough credit. (312)

### Vibrapods

#### \$7.99 each

Vibrapods are small, flexible vinyl pucks that can transform a system. They're numbered by their weight-bearing loads: Put them under speakers and electronics and hear better bass extension and smoother highs. At four for \$32, who says great tweaks have to be expensive? Just out, Vibrapod Cones—use them as standalone footers or combine with Vibrapods to get even more out of your system.



### VooDoo Iso-Pod Isolation System

\$299, set of 3; \$399, set of 4
Comprising CNC-machined aerospace alloy discs suspended by zirconium ball bearings, VooDoo's three- or four-point isolation system reins in acoustic and mechanical vibrations and resonances. It is a cost-effective way of tightening detail and illuminating imaging; it is also very stable, and the felt pads that top each pod are gentle on surfaces. (264)

### Walker Audio Valid Points Resonance Control Kit

### \$450-\$625

Valid Points, Walker's massive version of tiptoes, are sensationally effective under most components, particularly when used with Walker Resonance Control discs, which, themselves, can have a salubrious effect on the components under or on top of which they are placed.

### Wilson Audio Pedestal

### \$900 (set of three)

Speaker-maker Wilson Audio's experience with the "game-changing" V-Material, developed for parts of its Chronosonic XVX loudspeaker, prompted the company to develop a component footer that incorporates the material along with a proprietary viscous-damping material. The combination of V-Material and

the viscous damping reportedly offers unparalleled vibration-damping properties, making it ideal for placement under preamps, amps, DACs, servers, and just about any component within its weight limit. The housing is made from non-magnetic stainless steel. Two models are offered, one designed for weights of 3–9 pounds (weight load per Pedestal), one for heavier components of 8–25 pounds (weight load per Pedestal). RH found the Pedestal extremely effective under his phonostage, clarifying the soundstage, improving transient performance, and smoothing timbres.

### Xtreme AV QuickSilver Contact Enhancer

#### \$90

This 100% silver contact enhancer has been cryogenically treated to produce the optimum conductive surfaces for audio signal connections. Works on RCA jacks, tube sockets, AC cords, and cartridge pins.

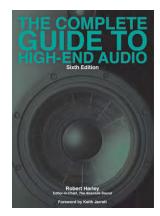
#### **BOOKS**

### The Complete Guide to High-End Audio, Sixth Edition

### **Robert Harley**

### Acapella Publishing, 591pp., \$45 (paper). hifibooks.com

First published in 1994, The Complete Guide has been updated and expanded in its Sixth Edition to include the latest advances in analog, digital, active, and desktop audio, Robert Harley's Complete Guide remains the most lucid, comprehensive, and useful book about high-end audio ever written. A masterwork by a past master. JV



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(and Where to Find Them in This Issue)

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