JASON VICTOR SERINUS

Canor Hyperion P1

PREAMPLIFIER



Just when I thought my equipment reviewing schedule was locked in for many months, an unavoidable last-minute cancellation sent me scrambling for an alternative.

Jim Austin to the rescue. To his query, "How would you like to review a tube preamp from Canor, of Slovakia?" I answered with an enthusiastic "yes!"

In addition to the exciting prospect of reviewing the first tubed preamplifier to come my way in a long time, hearing the Canor Hyperion P1 preamplifier ($12,500) in my system would enable me to get a handle on the sound of gear I'd only encountered once, at High End Munich 2024.[1] As is often the case at shows, I left without a clear sense of the preamp's contribution to the system's sound, let alone its ultimate potential.

The Canor Hyperion P1's price is far lower than that of my two reference, solid state preamps, the Soulution 727 ($74,975) and the D'Agostino Relentless ($150,000). Because of the huge price discrepancies, this was a review where it only made sense to explore the sound of the gear at hand without comparing it to gear with a heftier price tag.

A brief history

Canor was established in Slovakia in 1995, a mere two years after the separation of Czechoslovakia. Although Canor has designed its own equipment since day one, the Canor brand took a back seat to the company's primary role as an OEM/ODM (Original Equipment Manufacturer/Original Design Manufacturer), anonymously

1 See stereophile.com/content/fink-team-and-epos. Julie Mullins encountered Canor at AXPONA 2022; see stereophile.com/content/verdant-audio-wilson-benesch-canor-weiss-antipodes-avm-puritan. Robert Schryer heard some of their equipment a month later at Montréal Audio Fest 2022; see stereophile.com/content/capital-sound-room.

SPECIFICATIONS

Description Class-A vacuum tube preamplifier with zero global feedback and balanced attenuator. Tube complement: four 6922, two 6H30PI. Inputs: four XLR (balanced), five RCA (single-ended; one pair can be set to fixed output). Outputs: two XLR (balanced); one RCA (single-ended). Gain (XLR output): 11dB. Input impedance: 30k ohms. Output impedance: <150 ohms. Frequency response: 10Hz–80kHz, ±0.1dB. THD (XLR output): <0.005% at 1kHz, 2V RMS, XLR; <0.3% at 1kHz, 49V RMS. Channel separation: >110dB. S/N ratio (20Hz–80kHz): >115dB. Power: 115V, 50–60Hz. Volume control: 1dB increments with a maximum attenuation of 63dB. Maximum input voltage: 26V RMS at full rated output. Maximum output voltage: 50V RMS balanced (XLR) (THD <0.5%), 30V RMS balanced (XLR) (THD <0.05%), 4V RMS balanced (XLR) (THD <0.005%), 25V RMS unbalanced (RCA) (THD <0.5%), 12V RMS unbalanced (RCA) (THD <0.05%), 3V RMS unbalanced (RCA) (THD <0.005%). Power consumption: 0.82W standby.

Dimensions 17.72" (450mm) W × 18.31" (465mm) D × 7.48" (190mm) H. Weight: 63.93lbs (29kg).

Finish Silver or black.

Serial number of unit reviewed 07 628.

Manufactured in Slovakia.[1]

Price $12,500. Approximate number of US dealers: 6.

Warranty: 5 years.

Manufacturer

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Tel: +421 51 7710396.
Email: sales@canor-audio.com.
Web: canor-audio.com.
US distributor: Scott Bierfeldt, Verdant Audio, 12 Howell Dr., Far Hills, NJ 07931.
Tel: (475) 350-9876.
Email: info@verdantaudio.com.
Web: verdantaudio.com.

1 Canor emphasizes that Slovakia is a member of the European Union.

designing and producing equipment for other brands.[2] The company first began to seriously market equipment under the Canor name in 2020. Five years later, Canor products are distributed in at least 30 countries; US distribution is handled by Scott Bierfeldt's New Jersey–based Verdant Audio.

Canor currently employs 80 people, including 15 engineers, and occupies a facility of more than 86,000ft² that includes an anechoic chamber, CNC machines, and equipment for PCB assembly and for anodizing, sandblasting, and brushing metal. Canor launched an enhanced version of its first amplifier, as well as some new lower-level products, at High End Munich 2025.



To learn more, I scheduled a Teams chat with Bierfeldt, Sales and Marketing Director Ivan Bosnovic, and chief engineer/designer Zdenek Brezovjak. Brezovjak is one of the company's three highly engaged owners,[3] all of whom remain with the company after three decades in business.

Most Canor products use tubes. Abetted by their own Aladdin I and Aladdin II tube-testing devices, the company measures multiple tube parameters before assigning an individual ID number to each tube. All tubes are burned in, again on proprietary devices, for 200 hours; this allows them to stabilize before they are measured, selected, and paired. Canor stores all measurements and identifying parameters to enable precise tube matching down the road.

The company applies what they call "Canor PCB Milling Technology" (CMT) to the production of printed circuit boards (PCBs). Bosnovic said, "Our PCB methodology achieves excellent parameters that can be equaled by wire-to-wire connections only by using very expensive high-quality wires with Teflon insulation. However, our new technology has the advantage of repeatability in production, with a 100% identical geometric arrangement, which is not possible with wire-to-wire connections. In addition, our advantage is that the signal paths are several times shorter than it is possible to achieve wire-to-wire."

What it is

The Hyperion P1 is Canor's top-of-the-line, class-A reference tube preamp. Launched in December 2022, it's the intended partner and a good match for the Canor Virtus M1 reference monoblocks ($30,000/pair). Among the Hyperion P1's key selling points are a zero global feedback design that uses four 6922 and two 6H30PI tubes. Its 64-step balanced attenuator adjusts volume in 1dB incre-

2 For an introduction to Canor, see youtube.com/watch?v=ibGUSenKbHA.

3 Jan Kosco handles mechanical design and finances, and Jozef Curlik oversees production and machinery. All three men have been with the company since its inception.

MEASUREMENTS

When I unboxed the Canor Hyperion P1 preamplifier, the four 6922 tubes, two for each channel, were installed, but the 6H30PI dual-triode tubes, labeled "1" and "2," were packed separately. I carefully installed these tubes in the sockets that corresponded to their numbers and checked that the 6922 tubes were correctly seated. I performed a complete set of tests with my Audio Precision SYS2722 system[1] then repeated some of the testing with the magazine's APx500 analyzer.

I immediately encountered a problem in that there was no output from the right channel, from all the balanced and unbalanced inputs and outputs. I checked that all the cables I was using were okay. Then, after powering down the Hyperion P1, I rechecked that all the tubes were correctly installed. The problem persisted, so after powering down the preamplifier again, I swapped the tubes in one channel with those in the other. The right channel remained dead. The 6H30PI tubes are a very tight fit in their sockets; it is possible that either when the right channel's tube was removed before the preamplifier was shipped to me, during shipping, or when I installed the tube, the printed circuit board on which the socket was mounted had flexed and a trace had gone open circuit, though I could see no indication that this was so. However it happened, this malfunction obviously occurred after Jason's audition. I restored the tubes to their original locations and continued the testing with just the left channel.

All the inputs and outputs preserved absolute polarity, ie, were noninverting. The Hyperion P1's input impedance is specified as 30k ohms; I measured 53k ohms from 20Hz to 20kHz for the balanced inputs, 24k ohms at 20Hz and 1kHz, 21.6k ohms at 20kHz, for the single-ended inputs. The preamplifier's source impedance, specified as <150 ohms, was 274 ohms at 1kHz and 20kHz but 6.6k ohms at 20Hz for the balanced outputs; the unbalanced impedances were half those values. The rise in the source impedance at low frequencies is presumably due to the outputs being capacitor-coupled.

The volume control operated in accurate 1dB steps. At 10.9dB, the maximum gain at the balanced outputs was very close to the specified 11dB with both balanced and unbalanced input signals. The gain was the expected 6dB lower at the unbalanced out-

1 See stereophile.com/content/measurements-maps-precision.

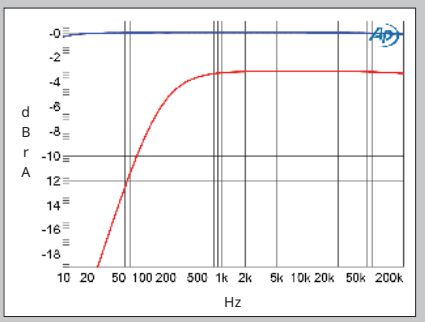


Fig.1 Canor Hyperion P1, balanced frequency response with volume control set to the maximum at 2V into 100k ohms (blue) and 600 ohms (red) (2dB/vertical div.).

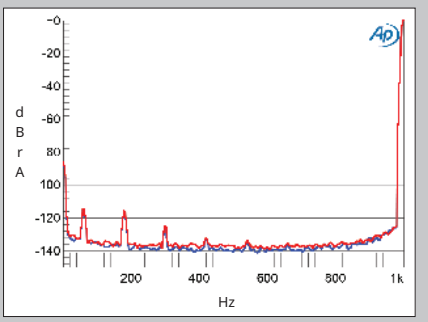
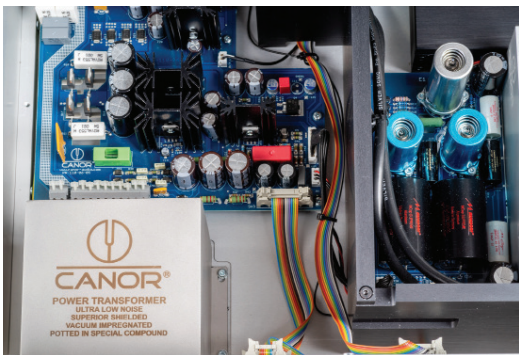


Fig.2 Canor Hyperion P1, balanced spectrum of 1kHz sinewave, DC–1kHz, at 2V into 100k ohms with volume control set to the maximum (blue) and to –12dB (red) (linear frequency scale).

ments and is galvanically separated from other parts of the preamp via an aluminum box with walls 10mm thick. Antivibration columns support the attenuator and the electronics.

With Bosnovic acting as translator, Brezovjak said that he is a violinist and wind player whose father taught and played cello and bass. His goal, he said, is to create equipment that reproduces the sound of real acoustic instruments making real music in a natural way.



Tube rolling is a popular activity among audiophiles, but Canor's position on the subject is ... nuanced. Bosnovic said that "customers are free to roll the tubes we select, which are predominantly from Electro-Harmonix." He noted, however, that because Canor "precisely burns in, tests, selects, and pairs" the tubes in each unit, the advantages of tube rolling are likely to be "questionable. Ultimately, it's very subjective."

Bierfeldt elaborated. "I have a nice stockpile of expensive tubes, but I have not been able to beat Canor's choices. I've had customers try the same thing. They typically return to the originals and are always a little dumbfounded" that the original tubes do as well as they do. "That's because Canor's tube matching is precise and done only after 200 hours of burn-in, which allows them to stabilize. A really narrow match makes a huge difference."

Bierfeldt expects the tubes in the P1 to last for at least 4000 hours of playback. He'd used the Canor P1 I reviewed almost constantly for three years, and the tubes still measured at 85% of tube life.

How it looks, how it sat

I find the Canor Hyperion P1's design aesthetic, which includes a large, centrally located front-panel volume knob distinguished by a yellow-illumined Canor logo and surrounded by yellow light, visually appealing. I appreciate the large LED input and volume readout on the right of the front panel, the bright horizontal strip that extends across its middle, and the visually balanced location of the push buttons that control power on/standby, input choice illumination, mute, and fixed or variable output. I also like the placement of the top's five air holes and the attractively designed air slots. Beauty may be in the eye of the beholder, but this beholder's eyes were happy to gaze on the illumined P1 each time I entered the music room.

The rear panel is the epitome of neatness and clarity, with four pairs of XLR (balanced) inputs and five pairs of RCA (single-ended) inputs; one pair of each can be set to "FIX.OUT" via that front-panel button. For outputs, the P1 offers two pairs of XLR and one pair RCA. Twelve volt trigger outputs (which I did not use) and a three-prong IEC power inlet with fuse holder complete the picture.

The Hyperion P1 arrived with its four 6922 tubes already

put. Fig.1 plots the Hyperion P1's frequency response into 100k ohms (blue trace) and 600 ohms (red trace). The response into both impedances is flat to 200kHz, but the increase in the preamplifier's output impedance at low frequencies results in a large rolloff in the bass into 600 ohms. The Hyperion P1 must be used with power amplifiers that have an input impedance of at least 20k ohms at low frequencies if the bass is to not sound lightweight. (The Dan D'Agostino and Accuphase monoblocks that JVS used for his auditioning respectively have a balanced input impedance of 183k ohms and 39.6k ohms at 20Hz, both of which are ample.) The volume control was set to the maximum to generate the traces in fig.1; with it set to –20dB the output was down by 2dB at 200kHz.

With the right channel inoperative, it wasn't possible to measure channel separation in detail. However, feeding the right channel a 1kHz signal, the crosstalk in the left channel lay at –108dB ref. 5V. With the volume control set to the maximum and the balanced input shorted to ground, the wideband, unweighted S/N ratio (ref. 2V output) was an excellent 93.5dB, increasing to 107.2dB when the measurement bandwidth was reduced to the audioband and to 111.6dB when A-weighted. Repeating this test with the single-ended input shorted to ground reduced these ratios by 12dB, but this is still very good performance. Spectral analysis of the Canor's low-frequency noisefloor with the preamplifier outputting a 1kHz tone at 2V with the volume control set to the maximum (fig.2, blue trace) revealed that both the random noise and the supply-related spuriae in the noisefloor were very low in level. Repeating the analysis with the volume control set to –12dB and the level of the input signal increased so that the output was the same 2V (red trace) slightly

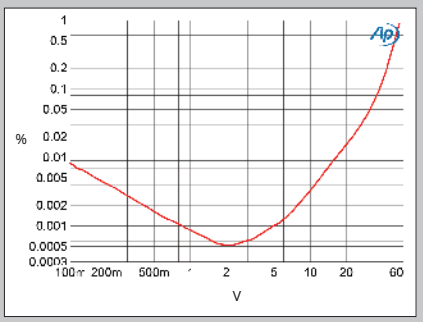


Fig.3 Canor Hyperion P1, balanced THD+N (%) vs 1kHz output voltage into 100k ohms.

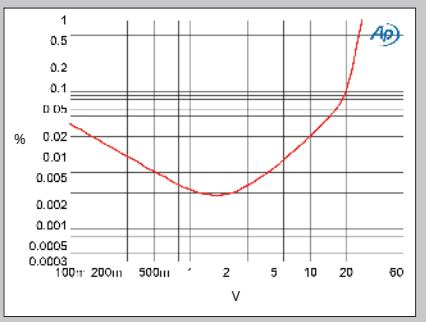


Fig.4 Canor Hyperion P1, single-ended THD+N (%) vs 1kHz output voltage into 100k ohms.

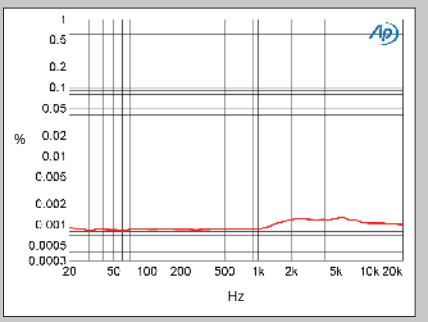
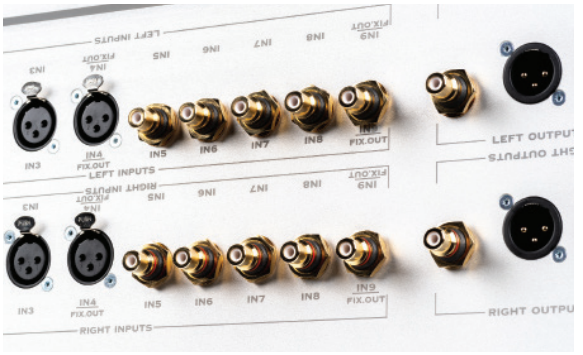


Fig.5 Canor Hyperion P1, balanced THD+N (%) vs frequency at 4V into 100k ohms.

in place. To prepare it for use, I employed a special tool (included in the box) to remove the 10 screws that fasten its top to the rest of its chassis. After carefully removing the top, I inserted the two 6H30PI tubes into their prescribed sockets. To ensure correct positioning, Bierfeldt had labeled both the tube sockets and the protective bubble wrap surrounding those tubes "1" and "2."



To replace the cover, I had to surmount two minor challenges: setting it in place without pinching fingers and lining up the screw holes. Most of us have been through such things before and survived unscathed. As long as you're not fielding texts, watching YouTube videos, or struggling to keep your pet(s) or child(ren) quiet and at a distance, you, too, should make it through safely.

That chore complete, I placed the Hyperion P1 atop Wilson Audio Pedestals on the left top of my Grand Prix Monza double rack. To its right sat the Display and Core of the superb and far more expensive five-piece dCS Varèse Digital Music System, collectively a streaming DAC. The data source was files—either streamed through or stored on an Innuos Statement Next-Gen streamer-server outfitted with ultrarevealing upgraded umbilical cables. Speakers were the trusty Wilson Alexia V with Lōke subwoofers. The two XLR outputs allowed me to send the P1's output to the monoblocks (then on to the main speakers) and the subwoofers.

All front-end components received regulated battery power from a Stromtank S-4000 MKII XT power generator; the D'Agostino Momentum M400 MxV monoblocks got their kick direct from the wall. Cabling, which included XLRs to the balanced D'Agostinos, was a mix of Nordost Odin II and Valhalla II, AudioQuest Dragon and Firebird.

Most Canor Hyperion P1 preamplifier owners will pair it with less pricey equipment. My reference setup is not an obvious match, but it allowed me to hear and determine the best that the Canor Hyperion P1 is capable of.

How it sounded

The Canor Hyperion P1 performed flawlessly during the review period, with no buzz or hum. What did not operate flawlessly was this reviewer. During one of my listening sessions with a friend, I inadvertently buried the small remote under the triple layer of plywood slab, cushioning, and special back support that prevents me from sinking into our vintage couches. Before I even discovered it missing, I had sat on it. By the time a replacement arrived via expedited shipping, I'd grown accustomed to adjusting volume by hand.

In almost the same amount of time it took my tuchus to wreck the remote control, the Hyperion P1 distinguished itself with

measurements, continued

raised the (relative) level of the noisefloor. The (low) levels of the spuriae at 60Hz and its odd-order harmonics were the same, which suggests these are introduced after the volume control.

Fig.3 plots the THD+noise percentage in the Canor preamp's balanced output against voltage into 100k ohms with the volume control set to the maximum. Actual distortion lies below the low noisefloor up to 2V output. It increases above that level but doesn't reach 1%, our usual definition of clipping, until an extraordinarily high 56V. The unbalanced output clipped at 26V into 100k ohms (fig.4), though the THD+N was higher than it had been in the balanced output. Both output types clipped at 5.2V into 600 ohms.

The balanced output's THD+N percentage, plotted at 4V into 100k ohms, was very low across the audioband (fig.5). I haven't shown how the THD+N varied into 600 ohms because this was affected by the rise in input impedance at low frequencies, but it lay between 0.2% and 0.3% in the midrange and treble at the same 4V. The distortion signature at the same voltage into 100k ohms was primarily the second and third harmonics, both close to a very low –96dB (0.0015%, fig.6). Intermodulation distortion with an equal mix of 19 and 20kHz tones was very low in level (fig.7), but even with the P1's reduced linearity into 600 ohms it was still very low (fig.8).

Other than the problem with the right channel, which occurred after JVS's audition, the Canor Hyperion P1 offered superb measured performance, with a wide frequency response and very low levels of noise and distortion. This is commendable given that the tubed circuit doesn't use global feedback. However, this preamplifier does need to be used with power amplifiers that have a high input impedance.—**John Atkinson**

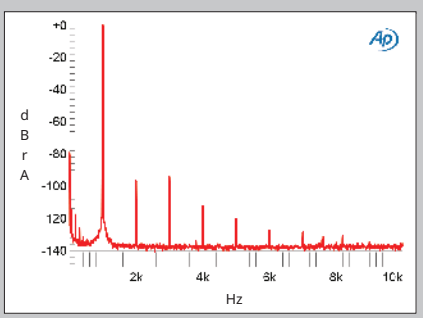


Fig.6 Canor Hyperion P1, balanced spectrum of 1kHz sinewave, DC–1kHz, at 4V into 100k ohms (linear frequency scale).

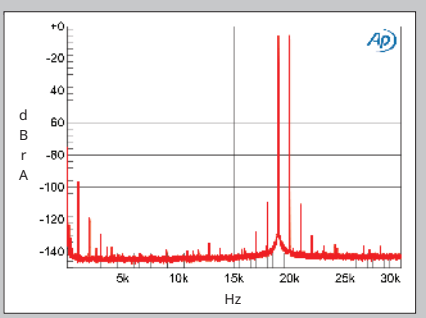


Fig.7 Canor Hyperion P1, balanced HF intermodulation spectrum, DC–30kHz, 19+20kHz at 4V into 100k ohms (linear frequency scale).

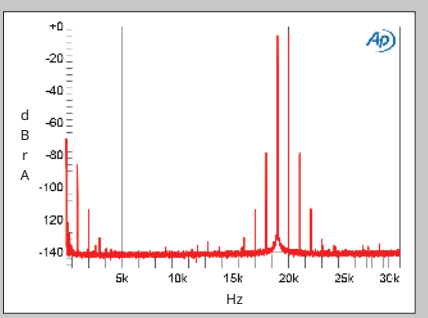


Fig.8 Canor Hyperion P1, balanced HF intermodulation spectrum, DC–30kHz, 19+20kHz at 2V into 600 ohms (linear frequency scale).

one of the airiest and widest soundstages that any preamp has delivered in my music room. I listened to Kristian Bezuidenhout and Freiburger Barockorchester's period instrument recording of Mozart's Piano Concertos Nos.19 and 23 (24/96 WAV download, Harmonia Mundi) and Isabelle Faust and Les Siècles' extremely detailed recording of the Ligeti Violin Concerto, conducted by François-Xavier Roth on *Ligeti: Violin, Piano & Rom*â*nesc Concertos* (24/96 WAV download, Harmonia Mundi). On both recordings, both the solo instruments and orchestra were set back and spread deliciously wide, with significant air around solo instruments. The effect was captivating. The openness and depth made me want to listen more.

There's a mystery to the Hyperion P1's sound that will draw many listeners in. If you want to hear what it can do with a recording whose spaciousness is superb to begin with, marvel at any track on Morten Lindberg's recently released *Stjernebru* with The Norwegian Girls Choir *(Det Norske Jentekor)* (24/352.8 FLAC download, 2L). For another airy goodie, listen to Debussy's Sonata for Flute, Viola, & Harp, recorded in the remarkably spacious, deep, and resonant Salle Colonne in Paris, on *Debussy: Sonates & Trio* (24/96 WAV download, Erato). Emmanuel Pahud, Gérard Caussé, and Marie-Pierre Langlamet wonderfully perform this masterpiece, composed three years before Debussy's death.

Timbres were neutral and true, and the midrange was quite beautiful, albeit with less bold than with some gear. Given that my room is prone to brightness, I enjoyed the fact that the P1 takes a soft and gentle approach to the top octaves. This treble reticence will prove a benefit in many systems.

This is a fine place to acknowledge that although I made no direct comparisons in this review, my ears have been conditioned by a reference system featuring expensive, solid state preamplifiers. This should be kept in mind in considering this review of a much less expensive (though hardly inexpensive) preamplifier that uses tubes.

I spent quite some time using the Hyperion P1 to review Vijay Iyer and Wadada Leo Smith's boundary-challenging new recording *Defiant Life* (24/96 WAV, ECM/download). The sense of space was marvelous, the air tremendous. The Hyperion P1 wasn't the fastest preamp—its "snap" is of the gentle sort—but it's certainly one of the most listenable and nonfatiguing I've enjoyed in my music room.

I used the Hyperion P1 to review baritone Benjamin Appl's fascinating *Lines of Life: Schubert and Kurtág* (24/96 WAV, Alpha/download). Initial attacks were a bit blunted, and the cores of tones were a mite blanched. Bottom octaves were extended but less than precisely focused. On two of my friend Scott Campbell's favorites, The Modern Jazz Quartet's rendition of John Lewis's "Place Vendôme," from the remastered version of their album *Pyramid* (16/44.1 FLAC, RevOla/Tidal), and the title track from the Remastered 2007/Rudy Van Gelder Edition of Ike Quebec's *Blue & Sentimental* (24/192 FLAC, Blue Note Records/Qobuz), bass pitch was a mite hard to discern.

This characteristic affected the low notes of the piano on another reference, the title track on Grant Green's *Idle Moments* (24/192 FLAC, Blue Note Records/Qobuz). But while edges were a bit blunted, the Hyperion P1's airy, laid-back quality ultimately *enhanced* the realization of Green's musical intentions.

This effect, which to me seemed paradoxical, worked to the advantage of other recordings as well. Returning to Kristian Bezuidenhout and Freiburger Barockorchester's tangy, period-instrument renditions on *Mozart: Piano Concertos Nos.19 & 23*, the copious delight of No.19's first movement came through in spades. Ultimately, the music's joyful warmth was enhanced by the P1's gift of air and space. The Hyperion P1 may not have conveyed dynamic contrasts in big pieces recorded in high resolution, such as a superbly recorded Mahler symphony, or the subtle changes in volume and nuance on a close-miked recording of a chanteuse, but its marvelous sense of air and space and its ease on top frequently trumped other concerns.

ASSOCIATED EQUIPMENT

Digital sources dCS Varèse five-piece music system, EMM Labs DV2i DAC, Meitner MA3 Integrated DAC; Innuos Statement Next-Gen Music Server and PhoenixNET network switch; Small Green Computer Sonore opticalModule Deluxe (2); Broadcom / Avago AFBR-5718PZ 1GB SX SFP, Gen 5 fiberoptic modules (2); Nordost QNet switch and QSource linear power supply (2); Sonore Audiophile Linear Power Supply; Synology 5-bay 1019+ NAS with Ferrum Hypsos linear/switching hybrid power supply; Linksys MR9000 mesh router and Arris modem; Apple 2023 iPad Pro and 2017 MacBook Pro laptop with 2.8GHz Intel i7, SSD, 16GB RAM.
Power amplifiers Dan D'Agostino Momentum M400 MxV monoblocks, Accuphase A-300 monoblocks.
Preamplifier D'Agostino Relentless, Soulution 727.
Loudspeakers Wilson Audio Specialties Alexia V with Lōke subwoofers.
Cables Digital: Nordost Odin 1, Odin 2, and Valhalla 2 (USB and Ethernet), Frey 2 (USB adapter); AudioQuest WEL Signature; Wireworld Platinum Starlight Cat8 (Ethernet), OM1 62.5/125 multimode duplex (fiberoptic). Interconnect (XLR): Nordost Odin 2 and Blue Heaven (subwoofer), AudioQuest Dragon. Speaker: Nordost Odin 2, AudioQuest Dragon. AC: Nordost Odin 2, Valhalla 2, Valhalla 1; AudioQuest Dragon and Firebird; Kimber PK10 Palladian. Umbilical cords: Ghent Audio Canare on NAS; QSource Premium DC cables with Lemo terminations for QSources; Innuos upgrade umbilical cables for Statement Next-Gen.
Accessories Grand Prix Monza 8-shelf double rack and amp stands, 1.5" Formula platform; Symposium Ultra Platform; Nordost 20A QB8 Mark III, QKore 1 and 6; Titanium and Bronze Sort Kones, Sort Lifts; Stromtank S-4000 MK II XT power generator, SEQ-5 Audio Distribution Bar; AudioQuest Niagara 7000 and 5000 power conditioners, NRG Edison outlets; Environmental Potentials EP2050EE surge protector/filter; Wilson Audio Pedestals; A/V RoomService Polyflex Diffusers; Resolution Acoustics room treatment; Stillpoints Clouds (8); HRS DPX-14545 Damping Plates; Marigo Aida CD mat.
Music room 20' L × 16'4" W × flattens at 9'4" H.
—Jason Victor Serinus

Conclusion

Every piece of gear—like every artist and every performance—offers a different window on truth. We rarely get to have it all. Yet if we choose carefully, we can end up so satisfied that, instead of searching and searching some more, we can sit back in our easy chairs, survey the beauty that's before us, and rest, content to breathe it all in.

Such was my experience with the Canor Hyperion P1. Time and again, I sat still in my listening room and marveled at how easy it was to enjoy music. Highs were smooth, and music was graced with such a profound sense of air and spaciousness that it elicited smile after smile. My auditions took place in early spring, but Gershwin's line, "Summertime, and the livin' is easy," perfectly describes the Hyperion P1's many gifts. ■