

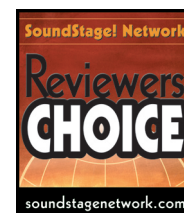
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Product Review

Amphion Argon3 Loudspeakers

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July 2010



When SoundStage! Network publisher Doug Schneider dropped off Amphion's Argon3 bookshelf speakers at my place for review, I had never seen, let alone heard, one of the company's designs. My familiarity with Amphion stemmed from a review of the Argon2 that Doug wrote eight years ago. The Argon2 Anniversary replaced the Argon2 in 2008, and its successor, the Argon3 (starting at \$2795 USD per pair), is Amphion's newest iteration of a loudspeaker that has received considerable praise in the audio press.

Amphion's reputation led me to have some expectations of the Argon3s. It took me less than ten minutes to unbox them, position them on stands, and get some music playing to hear what all the fuss was about.

Description

Amphion Loudspeakers Ltd. is based in Kuopio, a picturesque city in southeastern Finland almost completely surrounded by a lake, Kallavesi. Amphion began designing and manufacturing loudspeakers in 1998, and presently offers 15 models. All of their speakers are made in Finland, something of which company president Anssi Hyvönen is extremely proud. Although he noted that a lot of hard work and a steep learning curve were necessary to get the designs just right, he feels his company is at a point where they are "finally getting the hang of all the little things involved in building speakers with waveguides." And if you've ever seen an Amphion speaker, you'll immediately realize that it's their use of waveguides that sets them apart.

Waveguides are hardly a new idea in loudspeaker design; many of Amphion's competitors use them in one form or another to help control the dispersion of their tweeters' outputs. Amphion has continually refined their waveguides; the Argon3's is made of MDF, with a shape subtly different from the waveguides of the Argon2 models. Amphion claims it performs better, offering better integration of the drivers' outputs and lower distortion.

The photo of the Argon3 reveals that its tweeter is recessed so far into the waveguide that its voice-coil is actually on the

same vertical axis as the voice-coil of the midrange/bass driver below it. This means that the voice-coils of the two drivers (*i.e.*, their acoustic centers) are roughly equidistant from the listener's ears.

Mostly, the waveguide works to control the tweeter's dispersion, which makes for a smooth transition from the tweeter to the midrange/bass driver. It also increases efficiency, and allows Amphion to use a low 1600Hz as the crossover point, which is below the most critical range of human hearing: 2000-5000Hz. Amphion touts a technology called Uniformly Directive Diffusion (U/D/D). Their goal is to make the speaker's off-axis frequency response similar to its on-axis response, with the highest frequencies tapering off gradually the farther you move to the speaker's side.

Amphion uses in the Argon3 a 1" titanium-dome tweeter from SEAS called the Integrator, the same model they use in their flagship model, the Krypton3, which costs over six times as much. Amphion tests all of their tweeters by ear and, as Hyvönen informed me, discards a ridiculously high percentage of them for failing to meet their stringent specifications.

For the midrange/bass driver, Amphion chose another SEAS driver, a 6.5" aluminum cone that has been used in every iteration of the Argon since the Argon2. Aluminum was chosen because it is stiff and light; in addition, Amphion claims that aluminum's natural tendency to resonate at 3000Hz is inaudible, owing to the Argon3's low crossover point and steep filtering.

The Argon3 measures 15"H x 7.9"W x 12"D and weighs just over 24 pounds. The cabinet is solidly constructed, as one might expect given its considerable weight — a solid rap of the knuckles against any side returned merely a dull thud. On the rear panel are a port and a single pair of high-quality, gold-plated WBT binding posts. Foam plugs (supplied) can be used to block the ports if the Argon3s must be placed close to the front wall, or if the listener wishes to attenuate the bass by a few dB.

The Argon3 comes in a choice of five veneers: Cherry, Birch, and American Walnut (all real wood, add \$200 per pair), and

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black or white paint. The review pair came in walnut, and at first I wasn't impressed. For some reason, the appearance of the wood struck me as a bit dated. However, this impression soon faded, and within a few days of my setting up the Argon3s on stands, their appearance had grown on me. First impressions aren't always reliable.

The Argon3's lines are extremely simple and clean looking, and perfectly embody the minimalism I grew to admire so much about them. Even my fiancée, who has been extremely critical of some speakers to which I've introduced her, quickly grew to like their appearance; the walnut finish blended very well with the listening room's décor.

Amphion claims that the Argon3's frequency response is 36Hz-30kHz, ± 3 dB. Extending all the way down to 36Hz is a remarkable feat for a bookshelf speaker, let alone one that uses a 6.5" midrange/bass driver. The sensitivity is a claimed 87dB, the impedance 8 ohms — a pretty average load for an amplifier. Amphion recommends driving the Argon3 with 30-200W of amplification; because the speaker's impedance remains relatively high, tube amps should be able to drive the Argon3s to suitable levels.

System and setup

The Argon3s were connected to my Bryston B100 SST integrated amplifier via AudioQuest Type 4 speaker cables terminated in banana plugs. An AMX Optimum AVC 31 coaxial cable linked the digital output of an NAD C542 CD player to the Bryston's onboard DAC. A Thorens TD-160HD turntable fitted with a modified Rega RB250 tonearm and Dynavector's DV-10X5 high-output moving-coil cartridge performed analog duties. All electronics were plugged into an ExactPower EP15A power conditioner.

I ended up positioning the Argon3s so that the front baffle of each speaker was 46" from the front wall and the tweeters were 68" apart. I sat 6' away and toed them in so that their on-axis outputs summed just behind my ears. This produced the most focused three-dimensional soundstage.

Sound

One of the first discs I played through the Argon3s was Spiritualized's *Ladies and Gentlemen We Are Floating in Space* (CD, Dedicated 07822-18974-2), and what first caught my attention was the bass. The weight of the bass in "Cop Shoot Cop" was perfect in my room — I was stunned by how full and clean it was for a speaker of relatively modest size. I realized that if I were in a blind listening test and the Argon3s were behind curtains, I'd have guessed I was hearing a pair of floorstanders. This was because these little dynamos were able to energize the room as I've heard only larger speakers do. As I decided what to play next, I found myself smiling.

Moving on to "Heat Miser," from Massive Attack's *Protection* (CD, Circa 8 39883 2), I was again amazed by how easily

the Argon3s filled the room with nearly prodigious low end. They managed to combine greater bass extension than I'd ever before encountered in a bookshelf speaker with exceptional clarity, not just down low but across the entire audioband. For a little while now I've been considering buying a pair of floorstanding speakers for, among other things, their visceral impact. With the arrival of the Argon3s, I'm beginning to wonder if that's even necessary.

Before doing any further listening, I decided to plug the Argon3s' ports to hear if I preferred the speakers that way. What I heard was a truncation of their bass extension that was hardly subtle: on "Your Rocky Spine," from Great Lake Swimmers' *Onjiara* (CD, Nettwerk 30691 2), the port plugs robbed the music of some of its weight and impact — it didn't seem to hit me in the chest quite as hard as when the ports were open. This wasn't a bad thing per se, and some listeners will prefer to tailor the sound this way. But for me, the copious amount of bass the Argon3s were able to reproduce was so clean, detailed, and refined that it never seemed overpowering. Rather, it struck a perfect balance that brought a sense of scale and breadth to the music without ever sacrificing quality.

The Argon3s were neutral — they did very little editorializing on the music they were fed. Regardless of what signal I sent them, I always had the impression that what they sent back was an honest rendition of the recording. Some poor recordings and compressed MP3 files sounded terrible, and I appreciated that the Argon3s weren't sugarcoating anything. As reviewers will sometimes say, they revealed everything, warts and all. I prefer a more neutral sound, so I appreciated this.

However, I would never describe the Argon3 as sounding boring or analytical. On the contrary, it was the most musical and engaging speaker I've ever heard in my listening room. I found myself pulling out all sorts of CDs and LPs, just to hear how they sounded through the Argon3s. I felt I was rediscovering my music collection.

Although I've discussed the Argon3's excellent performance down low because that was what first caught my attention, I think the speaker's greatest strength was its transparency. Not since reviewing Usher Audio's X-718 had I heard a speaker that could unravel so much musical detail. The Amphion's midrange was as clear as day, and made me aware of things I'd never before noticed. For instance, while listening to "Darko," from German electronic duo Booka Shade's excellent *Movements* (CD, GPM CD006), I became aware of faint voices in the background that I'd never heard before. When I later hooked up my reference speakers, a pair of PSB Platinum M2s, I could now hear the voices, though not as clearly as through the Argon3s.

The Amphions' pristine clarity had me listening to another set of voices, this time in the form of Polyphony, directed by Stephen Layton, performing Morten Lauridsen's *Madrigali: Six Fire Songs on Italian Renaissance Poems* (SACD/CD, Hyperion SACDA67449). The Amphions' rendering of this a cappella

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chorus was beyond reproach: the voices emerged effortlessly from the speakers. There are moments during these poems in which the singing moves from soft to loud in an instant, and it was obvious that Polyphony's dynamic energy was being well served by the Argon3s' dynamic prowess. The extraordinary ease and tidiness with which the Amphions handled such passages had me turning up the volume, and their pristine clarity made it very easy to hear deep into the recording.

Clearly, the SEAS Integrator tweeter used in both the Argon3 and the Krypton3 is of very high quality. As I heard during several passages on the Lauridsen recording, the Integrator sounded not only quick, but also clean and composed as it soared to the upper limits of my hearing. This made it easy to engage in long listening sessions; the tweeter's smooth, even response never became bright or fatiguing.

Returning to Great Lake Swimmers' *Ongiara*, I was made aware of another strength of the Argon3s: their wonderful ability to create a wide, three-dimensional soundstage. The front of my room was occupied by precisely placed, sharply outlined images, and that exquisite clarity of which I'd become so enamored. The plucking of the bass strings on "Put There by the Land" was so articulate that the only way to improve on it would have been to have had the instrument in my room. The Argon3's ability to play loudly with ease brought such an amazing sense of scale to the music that I'd wager it could very well hold its own against more than a few floorstanders currently on the market.

Comparison

I compared Amphion's Argon3 with my longtime reference, PSB's excellent Platinum M2 (\$2000/pair). Both are two-way designs in which a 1" tweeter is married to a 6.5" midrange/bass driver. In the PSB's larger cabinet, aluminum and MDF are combined to create an incredibly rigid enclosure.

The PSB has compared favorably with most of the speakers that have passed through my listening room. While some designs might have done this or that a little better, I always found the M2 held its own quite well. However, with the arrival of the Argon3, the M2 may have finally met its match.

First and foremost, the Argon3 was more transparent. I don't know if this is because of its solidly constructed cabinets — the PSB itself is pretty darn sturdy — but the Argon3 had an even lower noise floor than the M2. Through the Amphion, music emerged from a completely "black" background, which made everything sound clearer and easier to sort out. This was particularly true with more complex musical passages, where the Argon3's speed and clarity made it easier to hear the leading edges of notes. Although the PSB still sounded very detailed, certain musical subtleties were more apparent through the Amphion.

Their transparency meant that the Argon3s were also more adept than the Platinum M2s at creating a tangibly three-

dimensional stage. Low-level details were carved out in space with an almost eerie precision that made it easy to close my eyes and hear exactly where sounds originated.

The other major difference between these speakers was in the quantity of bass. The PSB sounds full and weighty down low, especially when you consider that it's a bookshelf model, but it couldn't play as deeply as the Amphion, or with the smaller speaker's impact. Time and again, I was amazed at how well the Amphions were able to energize my room with bass that not only went deep but was fast and articulate.

I heard examples of the Argon3's superior transparency and bass performance on "Wish You Were Here," from *Echoes: The Best of Pink Floyd* (CD, Capitol 5 36111 2). Through the Argon3, the strings of David Gilmour's guitar sounded a bit crisper than through the Platinum M2; I could hear Gilmour's fingers as he coaxed each note from his instrument. When the bass kicked in, it sounded full and weighty through the M2, but through the Argon3 it just dug a bit deeper. These differences were subtle, but it was the combination of improvements brought about by the Argon3 that led me to prefer it. Although I feel that, even seven years after its introduction, the PSB Platinum M2 remains an excellent loudspeaker, the Argon3 raised the bar for what I'd thought possible from a two-way bookshelf speaker.

Conclusion

It's impossible to know if Amphion's use of waveguides and the resulting lower crossover point were responsible for the Argon3's breathtaking performance, and it doesn't matter. Although I find technical details interesting, my job is not to design speakers, but to evaluate how well they reproduce music.

The bottom line: Amphion's Argon3 is the finest-sounding bookshelf speaker I've ever reviewed for the SoundStage! Network. It has outclassed my longtime reference, PSB's Platinum M2. The torch has been passed.

Other than its inability to reproduce extreme low frequencies and ground-shaking dynamics (something that no small speaker can, owing to limitations imposed by physical size), the Argon3 left me wanting for nothing. Granted, some listeners might prefer a little more sizzle up top, or a more upfront sound. However, if you value hearing *exactly* what's on your CDs and LPs, then you'll want speakers that just get out of the way and let the music speak for itself, and you'll need to hear Amphion's Argon3.

Now that I know what all the fuss is about, I may have to consider taking a second job to keep the Argon3s here. I sure don't look forward to sending them back.

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M e a s u r e m e n t s

PLEASE NOTE: Our standard is to provide the THD+N measurement at 90dB with a measuring distance of 2 meters (within the anechoic chamber). Since this speaker produced low distortion levels under those conditions, we have added a second measurement performed at 95dB to give an indication of performance under higher-output conditions.

All loudspeaker measurements are performed independently at the National Research Council of Canada. All measurement data and graphical information displayed below are the property of *SoundStage!* and Schneider Publishing Inc. Reproduction in any format is not permitted.

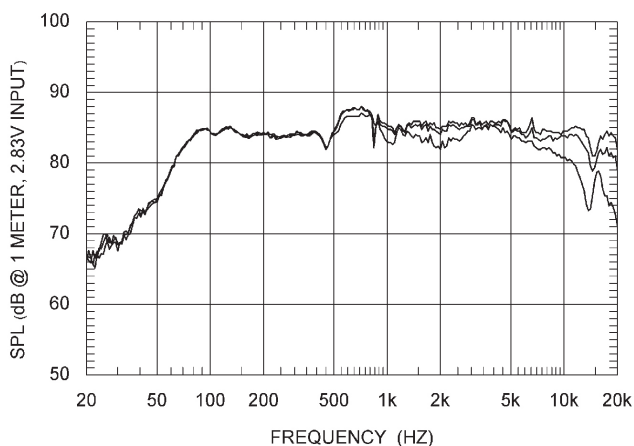
Microphone measuring position: between tweeter waveguide and mid-woofer

Grille: n/a

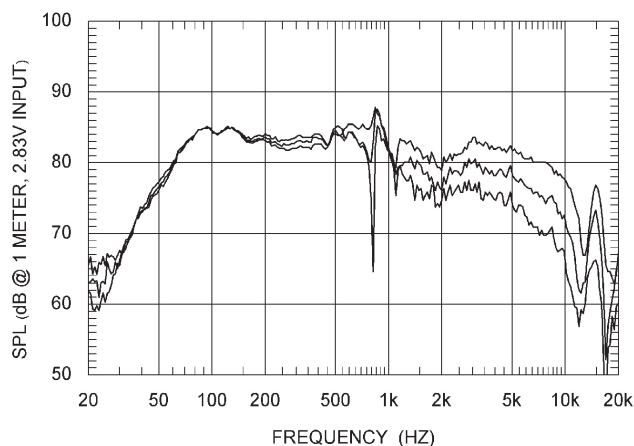
Sensitivity: 85.2dB (averaged 300Hz-3kHz, 2.83V/1m)

Frequency Response

20Hz - 20kHz (measured @ 2m, plotted @ 1m)



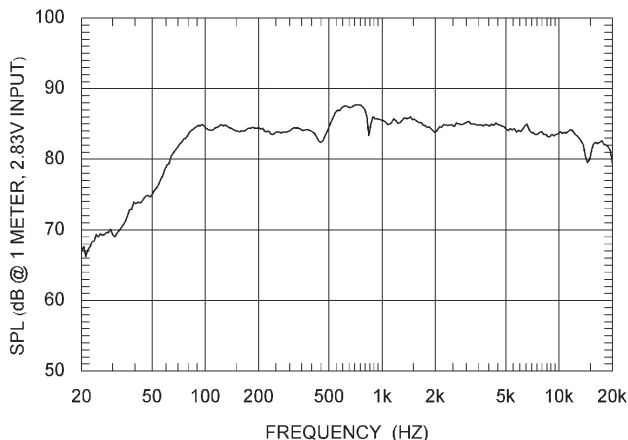
Top curve: on-axis response
Middle curve: 15 degrees off-axis response
Bottom curve: 30 degrees off-axis response



Top curve: 45 degrees off-axis response
Middle curve: 60 degrees off-axis response
Bottom curve: 75 degrees off-axis response

Listening Window

20Hz - 20kHz (measured @ 2m, plotted @ 1m)



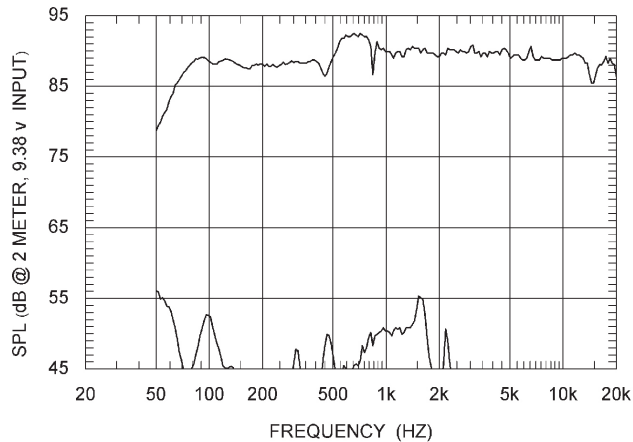
Response curve is an average of five measurements:
on-axis, 15 degrees left and right off-axis,
15 degrees up and down off-axis

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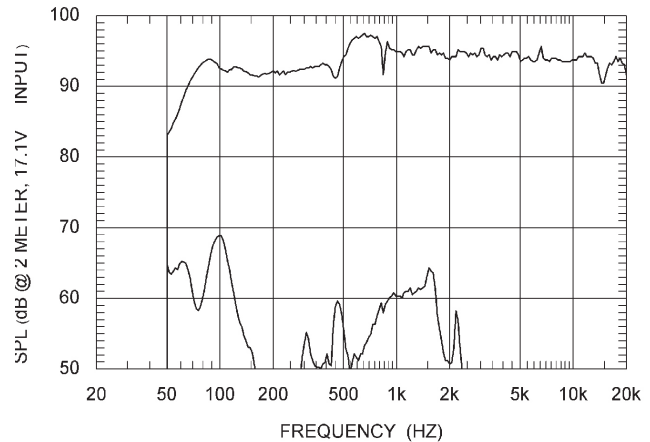
Total Harmonic Distortion + Noise

THD+N @ 90dB, 50Hz - 10kHz (measured @ 2m)



Top curve: frequency response @ 90dB SPL
Bottom curve: THD+N @ 90dB (50Hz - 10kHz)

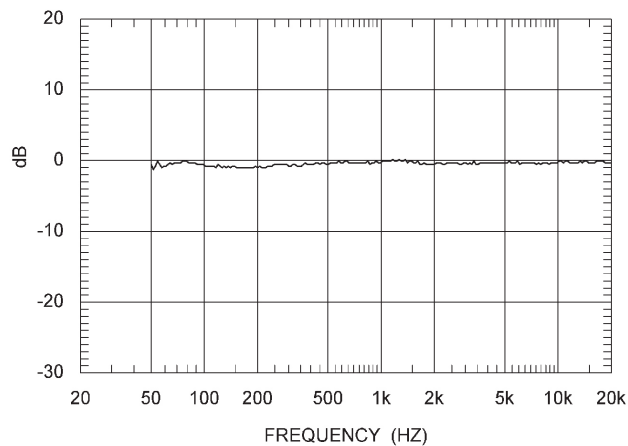
THD+N @ 95dB, 50Hz - 10kHz (measured @ 2m)



Top curve: frequency response @ 95dB SPL
Bottom curve: THD+N @ 95dB (50Hz - 10kHz)

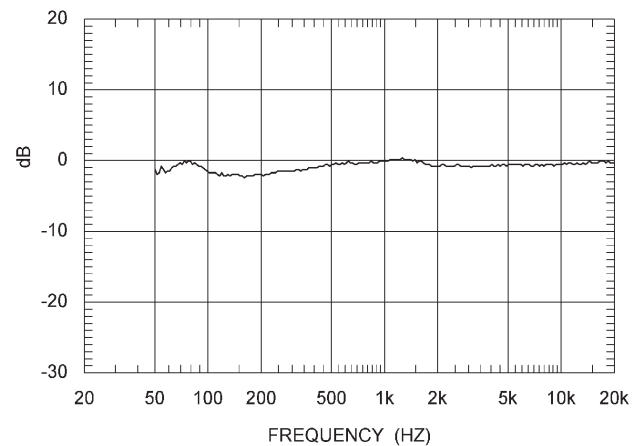
Deviation from Linearity at 90dB and Above

Difference @ 90dB, 50Hz - 20kHz (measured @ 2m)



Curve: difference from 70dB at 90dB

Difference @ 95dB, 50Hz - 20kHz (measured @ 2m)

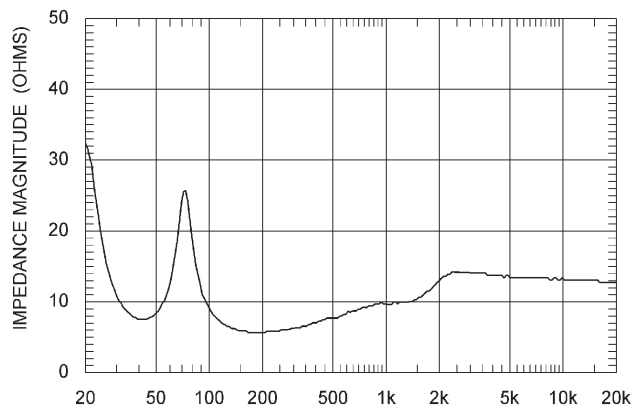


Curve: difference from 70dB at 95dB

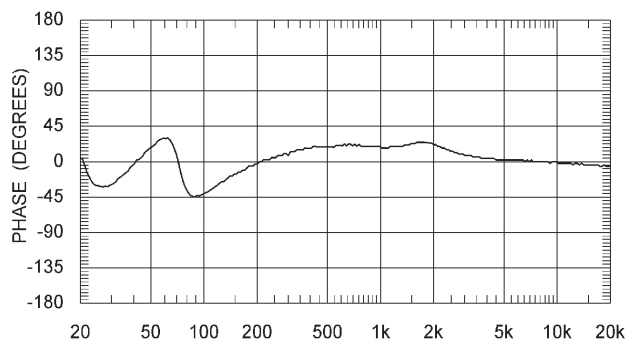
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Impedance Magnitude Variation and Electrical Phase



Vertical axis: impedance
Horizontal axis: frequency



Vertical axis: phase
Horizontal axis: frequency

Company Info

Amphion Argon3 Loudspeakers

Price: \$2795 USD per pair in black or white
(add \$200 per pair for real-wood veneer).

Warranty: Five years parts and labor.

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