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THE **VELVET** **SOUND** OF AUDIO PHYSIC'S **VIRGO III**

State-of-the-Art **SPEAKERS**
from Wilson & JMLab

MULTICHANNEL AMP & PREAMP
from Bel Canto
& McCormack

High-Performance **CD PLAYER**
from Classé

KICKIN'!
GOV'T MULE
ON RECORD

I was riding BART home from Home Entertainment 2003, thinking about the day—the new products, the old friends, the rooms with really great sound. It's a long ride from downtown San Francisco to Livermore, so I next got to thinking about all of the hi-fi shows I've attended over the years and which companies, year after year, always seem to have good sound. At the top of the list were Audio Physic and its US importer, Allen Perkins' Immedia.

My BART ride wasn't the first time my mind had followed this particular track, however. In fact, I had just these thoughts last summer, when I requested a pair of Audio Physic Virgo IIIs to replace my

Description: Three-way floorstanding loudspeaker. Drivers: 1" (25mm) ring-radiator tweeter, 4.5" (114mm) aluminum-cone midrange, two 6.5" (165mm) Nomex-cone woofers, two 6.5" Nomex inverted-cone passive radiators. Nominal impedance: 4 ohms. Input sensitivity: 90dB/W/m. Frequency response: 34Hz–40kHz, +0/–3dB. Recommended input power: 25–150W. Recommended room size: 210–420ft². Connections: rear panel, single-wire terminals, 5-way binding posts.

Dimensions: 40" (1010mm) H by 6" (150mm) W by 16" (410mm) D. Weight: 66lbs (30kg).

Finishes: Black ash; add \$500/pair for cherry, light maple, or rosenut.

Serial numbers of units reviewed: 3081A/B.

Price: \$6995/pair. Approximate number of dealers: 25. Warranty: 5 years, transferable.

Manufacturer: Audio Physic J Gerhard GmbH, 59929 Brilon, Germany. Tel: (49) 02961-961-70. Fax: (49) 02961-516-40. US distributor: Immedia, 1101 Eighth Street, Suite 210, Berkeley, CA 94710. Tel: (510) 559-2050. Fax: (510) 559-1855. Web: www.immedia-sound.com.

longtime reference speakers, the Magnepan MG3.6/Rs, which Trish deemed too view-impeding to make the move to our new house. The Virgos fit the bill perfectly—a smallish, great-sounding speaker that—based on my observation that AP speakers always sound good at shows—might integrate well into my unusual, large listening space.

A German Virgo

The original Audio Physic Virgo (reviewed in the September 1995 *Stereophile*) was designed to a simple brief: to integrate a point-source minimonitor with a woofer, successfully merging the former's wide dispersion and precise imaging with true full-range response. This goal, and the Virgo's basic configuration, have remained constant over the years, while pretty much everything under the hood has changed. At \$6995/pair, the Virgo III is now No.2 in Audio Physic's US lineup, behind the \$12,000/pair Avanti IIIs, a longtime reference for Michael Fremer.

The Virgo III is a floorstanding three-way and, true to its minimonitor-plus-woofer concept, is essentially Audio Physic's Brilon minimonitor mated to a woofer assembly. The minimonitor component consists of ring-radiator tweeter custom-made for Audio Physic by VIFA, and a 4.5" aluminum-cone midrange custom-built by SEAS. The rationale behind a ring radiator—imagine a ring suspended along its inner and outer circumferences and driven along a circle midway between the two—is that it combines a large driven area with a relatively short distance between the point where the diaphragm is driven and either of the two points it's suspended. The short suspended distances reduce distortion products, and the large driven area increases sound-pressure-level capability and allows the tweeter to be used at lower frequencies. This benefit supports AP's desire to move the midrange-tweeter crossover to as low a point as possible, to minimize its audible effect, particularly on female vocals and violin reproduction.

The aluminum midrange incorpo-

rates a bit of trickery as well, in the form of AP's unique "active cone damping" system, which puts the cone in tension and thus raises its inherent resonances to well above the audioband. As with earlier Virgo models, the midrange driver is enclosed in its own trapezoidal housing, built within the main cabinet structure.

The woofer subsystem is one of the major differences between the III and earlier Virgos, which used two side-ways-firing active woofers, one facing each way, and a single port at the front of the speaker. In the III, the port is replaced by two passive radiators and each side of the cabinet houses a vertical array of a woofer and a radiator.

The Virgo IIIs come as mirror-imaged pairs, the active woofer below the passive radiator on the speakers' inner sides, the drivers flipped on the outboard sides. In another major change, the woofer assemblies are no longer mounted directly to the external cabinet, but housed in their own sealed inner cabinet of MDF, this suspended inside the external structure with elastomer to isolate the midrange and tweeter from the woofers' vibrations.

System and Setup

Audio Physic provided wonderfully straightforward instructions for setting up the Virgo IIIs, the procedure based on a clear explanation of the physics of room reflections, arrival times, and distances—see www.stereophile.com/showarchives.cgi?179. Since the optimum way to avoid sidewall reflections is to keep the speakers away from the walls, and since the way to get the widest possible soundstage is to separate the speakers widely, following AP's recommendations will likely result in your speakers firing across a rectangular room's width rather than down its length. This worked well in my listening area, which—although it's actually one arm of a complex, flowing open area—is basically a rectangle 18' wide by 15' deep.

Once the speakers are roughly positioned according to the aforementioned physics, they can be moved into and out



Audio Physic Virgo III loudspeaker



ERIC SWANSON

of the room to achieve the optimal tonal balance at the listening position. Finally, one speaker is moved very slightly forward and back to center the image, then rotated to —Voilà!— fine-tune and lock in the focus. I ended up with the Virgos' fronts about 4' from the front wall, 5' in from the sides of my space, and about 8' apart. This put their plane about 8' from my listening chair, which located my ears about 3' in from the back wall and about 38" above the floor—the same elevation as the Virgos' tweeters.

I experimented with a variety of room treatments, using the MATT test on *Stereophile's Test CD 2* (Stereophile STPH004-2) to augment my listening impressions, and ended up with a very minimal setup. I used two Echo Busters

Bass Busters—see my review elsewhere in this issue—to form a half-round centered behind the speakers, flanked by two Double Buster diffusers, the combo pretty much covering the marble-and-glass fireplace behind the speakers. I used another pair of Double Busters on the wall behind my listening chair. I experimented with Echo Busters absorber panels at the first reflection points on the sidewalls, but since I'd begun with a "physics-based" setup designed to minimize the effects of reflections, the benefits of the sidewall damping were pretty negligible.

A final tweak to the system, suggested by Allen Perkins, was to slip a set of String Suspension Concepts isolation feet under the Virgo IIIs. At

first, this greatly offended my rigidity-über-alles audiophile sensibilities—but my wood floor is very springy, and Allen wondered if the Virgos were "driving the floor," which would perhaps muddy the bass a bit and slightly blur the system's focus. Sure enough, the SSC pucks immediately tightened up the bottom end and sharpened things up.

Use and Listening

One of my earliest high-end-audio memories is hearing Joni Mitchell's *Court and Spark* (LP, Asylum/Nautilus 11) on a set of Rogers LS3/5a mini-monitors. I was blown away. The holographic images and pinpoint detail were like nothing I'd heard before.

Measurements

The Audio Physic Virgo III is of above-average voltage sensitivity, my estimate coming in at 89.2dB(B)/2.83V/m, which is in reach of the specified 90dB. However, its impedance plot of magnitude and electrical phase against frequency (fig.1) reveals it to be a moderately

demanding load. Not only does the speaker feature a minimum impedance of 3.5 ohms at 572Hz, but the combination of 5.5 ohms and -42° at 78Hz will stress low-powered amps if the user wants to rock out on bass-heavy music.

The saddle at 44Hz in the magnitude trace gives a clue to the tuning of the bass radiators, which in turn implies modest bass extension. There are no wrinkles in the impedance traces that would suggest the presence of mechanical resonances in the cabinet panels. Fig.2, calculated from the output of an accelerometer fastened to the center of a side wall above the woofer-radiator opening, reveals a mode present at 310Hz as well as a couple a little

higher in frequency, but these are all low in level. The speaker's front baffle was rock-solid.

The traces in fig.3 were all taken in the nearfield, and reveal considerable overlap between the two side-facing woofers (red trace) and the front-firing midrange unit (green). The passive radiators (blue) also offer output into the midrange, but it is fair to note that the close proximity of the woofers may have resulted in upper-frequency leakage into their apparent response. The woofers show only a slight notch at the nominal radiator tuning frequency of 44Hz, though the output of the radiators does peak as expected in this region. There are various other small peaks and notches apparent in these traces; I wonder if they are due to interference between the twin woofers and radiators. The black trace in fig.3 is the overall sum of these individual responses-

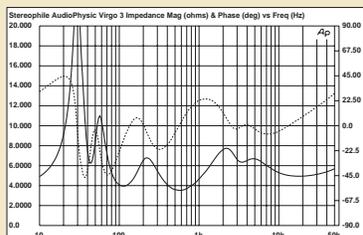


Fig.1 Audio Physic Virgo III, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

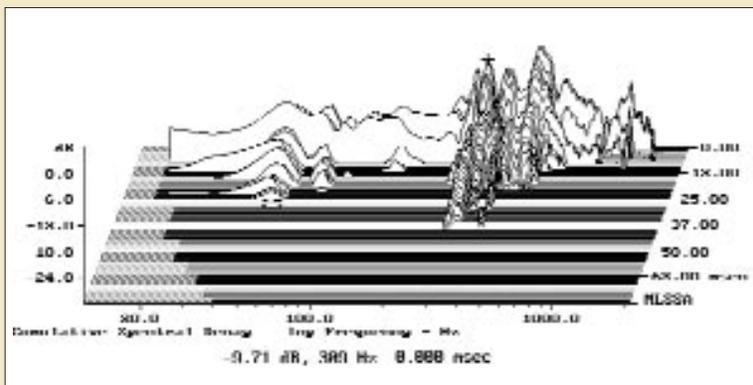


Fig.2 Audio Physic Virgo III, cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the cabinet's side panel. (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz.)

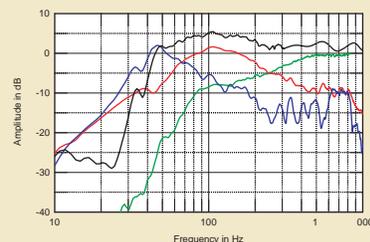


Fig.3 Audio Physic Virgo III, nearfield responses of the midrange unit (green), woofer (red), passive radiator (blue), and their complex sum (black), taking into account acoustic phase and distance from the nominal farfield point.

That memory—polished, honed, and no doubt inflated over the years—is still my gold standard for minimonitor performance. I couldn't afford the LS3/5as at the time, but I did buy the record. And since in the Virgo III Audio Physic has aimed to merge the best of minimonitor performance with full-range extension, it seemed like a good idea to dig out *Court and Spark* and see how the Audio Physic's measured up to my golden memory.

The Virgos acquitted themselves quite well, thank you very much. I cued up "Car on a Hill," sat back, closed my eyes, and Mitchell was *right there*, solid, tangible, and three-dimensional. I could picture her, eyes closed, leaning into the microphone—so solid was the image

that I felt as if I could stand up, lean forward, and look around her to see her from the sides and back. And the soundstage was huge—incredibly wide, deep, and open, with a great sense of clarity and air, and images that were firmly and precisely locked into their places.

But rather than my memory of the LS3/5as, the Virgo III's incredible soundstage and imaging reminded me more of the Magnepan MG3.6/Rs than of the small speakers I've heard over the years. Like the Maggies, the Virgos' images were wonderfully solid and three-dimensional, but not as tightly focused as I've heard from top-flight minimonitors in the past. The Virgos' images were a little bit larger and not quite so sharply bounded, instead merg-

ing more naturally with the surrounding space.

This isn't a complaint. A frequent shortcoming of minimonitors is that their images are simply too small to credibly portray the live event—particularly a full orchestra—and often their compact, tightly focused, sharply bounded images contribute to that impression. The Virgos' slightly larger images created a much more naturally scaled portrayal—more important, one that made sense. That is, the sizes of their images and their spacing around the soundstage was consistent with the distances described by the surrounding ambience, and with the perspective between listener and instruments.

The Virgo's reproduction of detail

Measurements

es, mathematically summed taking both acoustic phase and the different distances from a nominal farfield measuring point. It is pretty flat overall, with the slight hump in the upper bass presumably stemming from the near-field measurement technique.

This trace is also shown to the left of fig.4, spliced to the farfield output averaged across a 30° horizontal window on the tweeter axis. There is a slight excess of energy in the lower and mid-treble, but the top-octave response is slightly shelved-down, something I have seen before in speakers using versions of this ring-radiator tweeter. But overall, the Virgo III's quasi-anechoic response is both smooth and flat.

To my surprise, given its narrow baffle and small-diameter midrange unit, the Virgo III was quite direc-

tional in the treble, which can be seen in fig.5, the speaker's plot of horizontal dispersion. There is a distinct step in the radiation pattern just above 1kHz, but the dispersion is actually

well-controlled, with no flare apparent at the bottom of the tweeter's passband. The tweeter itself, however, becomes very directional above 10kHz, which will make the balance

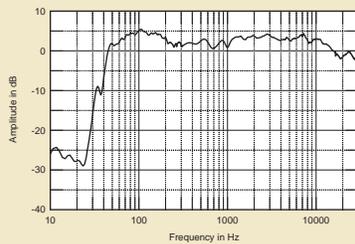


Fig.4 Audio Physic Virgo III, anechoic response on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with the complex sum of the nearfield responses plotted below 300Hz.

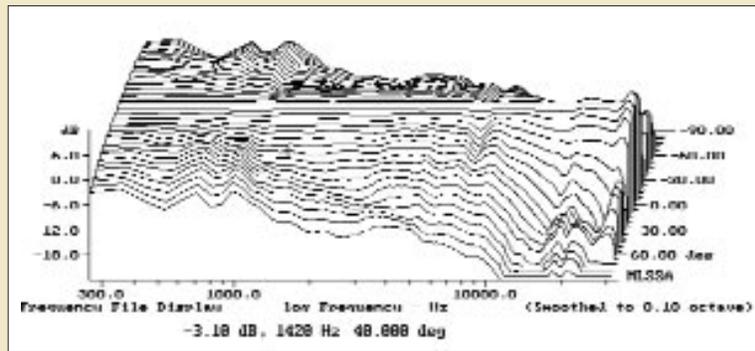


Fig.5 Audio Physic Virgo III, lateral response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90°-5° off-axis, reference response, differences in response 5°-90° off-axis on driver side of baffle.

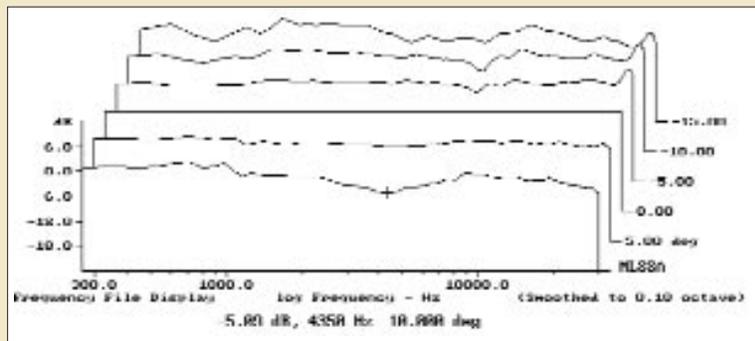


Fig.6 Audio Physic Virgo III, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 15°-5° above axis, reference response, differences in response 5°-10° below axis.

Audio Physic Virgo III

was another area where it didn't sound like most other minimonitors. There was detail in spades—layers and layers of it—but it was inner detail, small subtleties within the fabric of the music, rather than the laser-sharp, pinpoint-located, count-the-chair-scrapes sort of detail that minimonitors are famous for. True, I could follow Joni Mitchell's head moving slightly around the mike, but I wouldn't say I could hear the air moving through her throat and mouth, or the interaction of her vocal cords with the moving column of air. The Virgo's detail just wasn't that flashy or gratuitous. Instead, it was a part of what drove the performance forward and made it come alive.

One thing that I suspect contributed

to the Virgo's reproduction of detail was the sound of its ring-radiator tweeter. John Atkinson's measurements may shed some light here, but while the Virgo didn't sound closed-in or dark, it didn't seem to have the *n*th degree of air and extension, either. Instruments with a lot of high-frequency energy, even some female vocals, didn't pop out of the mix the way they do with the Thiel CS6, for example.

When I zeroed in on high-frequency detail—the circular motion of Frank Gant's brush on his cymbals in "What a Difference a Day Makes," from Ernestine Anderson's *Never Make Your Move Too Soon* (CD, Concord Jazz CCD-4147), for example—it was obvious that the Virgo's tweeter was doing

its job. However, it had a softer, sweeter sound than most tweeters, and reminded me more—again—of the Magnepan 3.6/R's ribbon tweeter than of a conventional dome unit.

Both Magnepan and Audio Physic use relatively low crossover points: 1700Hz for the 3.6/R, 3000Hz for the Virgo. I couldn't help wondering if the Virgo's and Maggie's softer, sweeter treble responses are related not to shortcomings in the tweeters but to inherently lower distortion.

One area where the Virgo III's definitely reminded me of good minimonitors was in their wide dispersion and point-source character. Although there was definitely a sweet spot, particularly in terms of focus, their overall sound

sound rather airless in very large or well-damped rooms, which BD did note. In the vertical plane (fig.6), the response stays remarkably even over quite a large angle.

Fig.7 shows how this all added up in my own listening room, which is of moderate size but not overdamped. The Virgo III's spatially averaged response—120 individual $\frac{1}{3}$ -octave responses taken over a window 18" deep and 40" wide and centered on my ear position, each

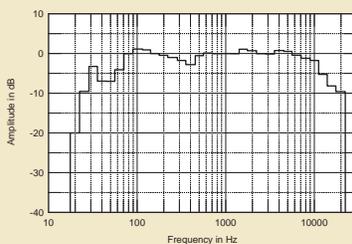


Fig.7 Audio Physic Virgo III, spatially averaged, $\frac{1}{3}$ -octave response in JA's listening room.

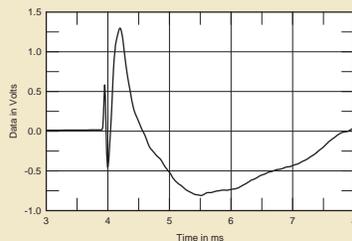


Fig.8 Audio Physic Virgo III, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

speaker driven alone—is remarkably flat through the upper midrange and treble. The tweeter's beaming above 10kHz results in a rolled-off top octave, which I did hear in my own auditioning as a slightly polite balance. However, the placement of the woofers near the floor results in much less of a "floor-bounce," interference-caused suckout in the lower mids. The lack of measured energy in the 50Hz and 63Hz bands is typical of my room, but the Virgo III does not offer much in the way of low bass, not being too different from the Monitor Audio stand-mounted speaker I reviewed in the August issue. Again, this correlates with what BD found in his auditioning.

In the time domain, the Virgo III's step response (fig.8) shows a sharp, positive-going spike from the tweet-

er, followed a fraction of a millisecond later by the positive-going output of the midrange unit. The output of the woofers cannot be distinguished in this graph, but its negative-going step—the woofers are connected in inverted polarity—coincides with the negative-going undershoot of the midrange unit, implying good frequency-domain integration. Finally, other than a low-level mode at 7.7kHz, the Audio Physic's cumulative spectral-decay plot (fig.9) is extremely clean, which suggests a grain-free, transparent treble presentation.

Overall, this is good measured performance. The III appears to be an excellent successor to the original Virgo, which was one of my favorite speakers in the late 1990s.

—John Atkinson

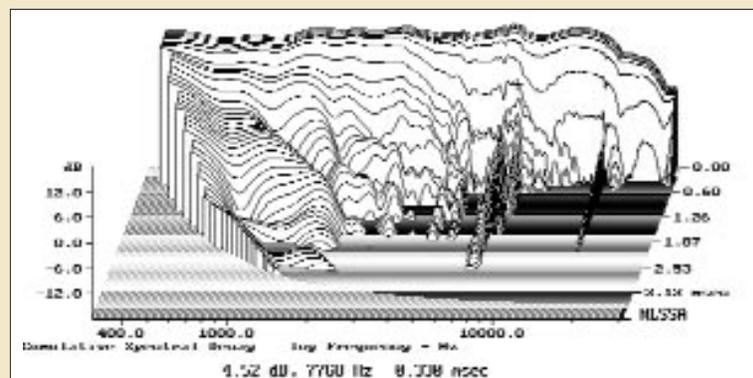


Fig.9 Audio Physic Virgo III, cumulative spectral-decay plot at 50" (0.15ms risetime).

remained remarkably consistent outside the sweet spot. I found that I could move quite a ways off-axis and still enjoy their performance—a benefit when you’ve got a new wife to share the music with.

Returning to the music, the Virgos did a fantastic job on *Court and Spark*. Joni Mitchell’s singing wasn’t just notes laid out there, or merely released to progress monotonically across the stage. Each note was crafted and shaped, some breathily released to float away into nothingness, some tightly gripped and manhandled, pulled to and fro, dragging me along with them. With the Virgos, Mitchell’s singing wasn’t just a performance, it was a roller-coaster ride, with her at the controls and me her passenger, hanging on for dear life. Try as I might, I couldn’t ignore the music, or just sit back and let it happen. I was always drawn in, further and further, until, inevitably, I would realize I was sitting forward in my chair, gripping the armrests.

Another great showcase for the Virgo’s strengths, and another record I’ve had since the dawn of time, was Franz Helmerson’s recording of J.S. Bach’s Suite No.2 in d for Solo Cello (LP, BIS LP-65). It’s a wonderful performance through any speaker, with a solid, nicely detailed image, a warm, well-described acoustic, and just the right balance of size, distance, and perspective. With the Virgos, however, it was a lot more than that. Rather than something warm and mellow to sit and sip wine to, the Virgos made this recording feel like a live event. There was that same *right there* quality I’d felt with *Court and Spark*. The air and ambience seemed to have the sort of electricity that permeates a concert hall, and, as with Mitchell’s singing, each note was shaped and crafted, rich with detail and subtlety.

Okay, so the Virgo III didn’t quite have a traditional minimonitor’s specific strengths and weaknesses—to its credit, in my book. What about the other half of its design brief: full-range performance? JA’s measurements will tell the tale, but I’d guess that the Virgo was good down to about 40Hz in my room, dropping off pretty rapidly below that. It was articulate and clean at the bottom of its range, but didn’t have the power and impact of a much larger speaker.

The massive gong a few minutes into Dead Can Dance’s “Yulunga,” from *Into the Labyrinth* (CD, 4AD 45384-2), was a good example. The attack was clean and the initial tone quite pure, pristine enough to hear the individual waves moving across and out from the gong. But the subsonic pressure waves that ex-

panded out to fill the room didn’t have the weight and power that I’ve heard from other, larger speakers. To be fair, my huge, open space is a *lot* bigger than the Virgo’s intended environment. In something closer to the recommended 210–420ft², and with an 8’ or 9’ ceiling instead of my 20’ one, they should be much better able to pressurize the room and bolster the impression of deep, powerful bass.

The Virgo III was a solid performer on my other bass tests, sounding more like a good big speaker than a good little one. Listening to Henry Grimes’ and Bob Cranshaw’s bass lines on Coleman Hawkins’ and Sonny Rollins’ *Sonny Meets Hawk* (LP, RCA/Classic LSP-2712), I noted that they were clean, warm, and woody all across their ranges. The Virgo did have a warmish tonal balance, suggesting that the 80–100Hz region might be a little more prominent than the 150–400Hz lower midrange. For example, Helmerson’s

cello sounded a bit bigger and woodier at the bottom of its range than up near the top. However, there was none of the thickening and one-note character of a speaker that creates the impression of bass by boosting the warmth region. And on fast, stressful passages such as the runs on Fourplay’s “Bali Run,” from *Fourplay* (CD, Warner Bros. 26656-2), the Virgo was always quick and precise, cleanly starting and stopping in plenty of time to keep up with the music.

The third aspect of merging a minimonitor and bass unit—the merging—is probably the most difficult of all. The Virgos pulled it off beautifully. Images, whether a single, full-range instrument such as a piano or an entire orchestra within a coherent acoustic space, were seamless from top to bottom. There was no hint of temporal, spatial, or textural discontinuities as the Virgos moved across the instruments’ frequency ranges.

The Virgo’s handling of dynamics, an area where integration often runs into snags, was similarly consistent from top to bottom, and quite good overall. The Virgo’s handling of smaller-scale dynamics—the ebb and flow of a woodwind line, for example, or the intricate microdynamics of Joni Mitchell’s voice—was excellent. However, the Virgo was not as explosive as some speakers I’ve used; its dynamic contrasts were not quite as large. But, as with the Virgo’s bass performance, I attribute this more to a mismatch between my room and the speaker’s intended environment than to any inherent shortcoming on their part. On Dead Can Dance’s “Yulunga,” the maracas that explode out of the dense, swirling mix didn’t have quite the snap, didn’t take my breath away, as they have with some other speakers. But given the choice between top-to-bottom consistency and that *nth* degree of impact, I’ll take consistency any day.

Exploring whether or not the Virgo III actually does merge minimonitor strengths with full-range performance is an interesting way to dissect their performance, but it’s not really the point. The point is how well a speaker succeeds in conveying the magic of a musical event. That the Virgos did very well. I threw everything at them, from the simple and achingly beautiful Mozart Clarinet Quintet in A, K.581, on Stereophile’s *Mosaic* (STPH015-2), to full orchestral works, to small jazz combos, and to all-out rockers from AC/DC and Stevie Ray Vaughan. They were never less than captivating and magical.

Associated Equipment

Digital sources: Burmester 001, Simaudio Moon Eclipse CD players.

Analog source: VPI TNT Mk.V-HR turntable & JMR12.5 tonearm, Grado Statement Reference cartridge.

Preamplifier: VAC CPA-1 Mk.III.

Power amplifiers: Classé Omega, VTL Ichiban, Mark Levinson No.20.6 monoblocks.

Loudspeakers: Magnepan MG3.6/R, Thiel CS6.

Cables: Interconnect: Nirvana S-X Ltd., Nordost Valhalla, Audience Au24. Speaker: Audience Au24, Nordost Valhalla. AC: Audience PowerChord.

Accessories: Bright Star Big Rock, Little Rock, Isonode isolation devices; Immedia SSC suspension feet; Nordost ECO3 and Diskolution CD cleaning/treatment fluids; MIT ZCenter, ZSystem power-conditioning and delivery systems; AudioPrism Noise Sniffer AC line analyzer, Quiet Line AC filters; VPI HW16.5 LP cleaning machine, Sumiko Fluxbuster demagnetizer, Hunt/Decca record brush, Wally Phono Tools; Echo Busters room treatments.

—Brian Damkroger

Audio Physic Virgo III

Antony Michaelson's clarinet was pure, warm, and woody, Vaughan's guitar was hot, swampy, and alive, and vocals—particularly female vocals—were as realistic and “in the room” as I've heard with any speaker, big or small. As I noted early on, Audio Physic's speakers have sounded great in every room I've heard them in. Now I can enthusiastically add my listening space to that list.

Summing Up

I wouldn't call Audio Physic's Virgo III a perfect merging of a minimonitor and full-range bass extension. It is both less and more than that. I think of the Virgo III as simply a great-sounding speaker—particularly given its compact dimensions—and an interesting point on my timeline between the Magnepan

MG3.6/R (which they replaced) and the Thiel CS6 (waiting in the wings). Although the Virgo III's technology more

Audio Physic's Virgo III is simply a great-sounding speaker.

nearly aligns with the Thiel's, the Virgo's strengths, weaknesses, and overall presentation were much more akin to the Maggie's. The sweet, delicious highs, the rich, tangible images, and the huge, three-dimensional, walk-in soundstage—all reminded me a lot of the 3.6/R's most

captivating attributes. On the other hand, the Virgo didn't seem to have the incredible precision, focus, and clarity of the Thiel CS6, or its dynamic impact and power, particularly at the bottom end.

The bottom line is that the Audio Physic Virgo III is an excellent loudspeaker that I could happily live with for a long time. It's not the perfect match for my room, but even there, a pair of them worked very well, in both the audiophile and, even more, the musical senses. In a smaller room, my caveats about low bass power and dynamic impact would likely come off the scorecard.

The Audio Physic Virgo III is a well-engineered, beautifully executed, and great-sounding loudspeaker that is, to my way of thinking, fairly priced at \$6995/pair. Very highly recommended. 



Manufacturers' Comments

Audio Physic Virgo III

Editor:

We would like to thank Brian Damkroger for his time and efforts in writing this insightful review. We agree with his overall impression of the Virgo. There was a very concerted effort by Audio Physic to improve the Virgo without losing what everyone loved about the existing model: big, accurate soundstage, attractive proportions and size, and compatibility with almost any electronics. A close inspection of the old and new models quickly reveals that they have virtually no parts in common, yet the “family resemblance” in both sound and form is undeniable. This is a very difficult engineering juggling feat, and one that took over two years to realize.

As Mr. Damkroger points out in his review, the relationship between speaker size and room volume is the primary factor in a speaker's ability to deliver convincing deep bass with impact. Mr. Damkroger's situation is interesting in that he listens nearfield—an advantage

with a design as well-integrated as the Virgo—yet he is surrounded by the very large open volume of most of his house, a hindrance to developing bass pressure. In a closed listening room with an area of up to 450ft² and ceilings up to 9', the Virgo III produces frequencies as deep as its predecessor, but with better output because it has much more cone area pushing air. We have found that customers listening in a suitably sized room are very happy with the bass performance of the Virgo III.

It may be valuable to provide some background to our speaker-setup suggestions described in the review. When creating our setup guide, it was our intention to support a case for nearfield listening, which offers two inherent advantages. First, by sitting closer to the speaker, you can achieve high sound-pressure levels at the listening position without actually playing the speaker so loudly it overloads the room. Second, the direct sound of the

speaker arrives at the ear before reflections, providing better imaging and frequency balance without the use of room treatment.

An unfortunate misunderstanding developed after printing the setup guide. The impression was that this setup method is required with Audio Physic speakers. In fact, Audio Physic speakers perform well with most accepted setup methodologies. It is our contention that, to realize the maximum performance of any fine product, care in setup is crucial. We know that many other brands of speakers can benefit from our setup suggestions as well, and we encourage audiophiles to try them. The improvements are free!

We appreciate the opportunity to appear in *Stereophile*. The approach of supporting subjective observations with objective measurements is one we strongly support. Please contact us with any questions, and for the location of your nearest dealer.

Allen Perkins
Immedia

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