

Audio Physic Avantera Loudspeaker (TAS 220)

You Little Wonder, You!

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Source: The Absolute Sound

TAS's 2011 Overall Product of the Year award winners, the \$60k Magico Q5 and the near-\$100k Rockport Altair, may be the highest-fidelity dynamic loudspeakers that a whole lot of money can currently buy, but that doesn't mean that there aren't other cone speakers out there that do many of the

things that the Magicos and the Rockports do, and for considerably less dough. Take, for instance, the new three-and-halfway floorstanding \$27k Avantera from the 25-year-old German loudspeaker manufacturer, Audio Physic.

While the Avanteras don't have beryllium tweeters, carbon-fiber-Rohacell-sandwich drivers, and massive aluminum or svelte fiberglass enclosures—and are considerably smaller and daintier than either the monolithic Magicos or the windswept Rockports—it might surprise you to know how close they come to the world-class sonics of the Big Boys (and how much solid engineering has gone into making them sound the way they do). These are German loudspeakers, after all, made by a company whose motto is “No loss of fine detail.” By this phrase AP doesn't just mean the loss of musical detail (although that is its primary meaning). The Avanteras have been meticulously crafted and then voiced by genuine music lovers to achieve “no loss of fine detail” in playback by assuring that there is no loss of fine detail in design and build.

That design-and-build starts with an enclosure that, in some ways, reminds me of the M Series Magicos, in that the Avantera's forward-firing high-frequency, midrange, and lower midrange cones are flush-mounted behind a one-half-inch-thick T-6 aluminum faceplate that, like the T-6 aluminum faceplate of the Magico Mini and M5, is radiussed at the edges to serve as an



inert, resonance-and-diffraction-free platform for the three drivers that handle almost all of the music—the frequencies from roughly 150Hz up. As was the case with the M Series Magicos, the rest of the Avantera’s enclosure is heavily braced wood—well, MDF in the Avantera’s case—with an elaborate internal architecture of open and sealed chambers, designed (as is every other part of the speaker, including its optional, highly recommended VCF feet) by AP’s brilliant chief engineer Manfred Diestertich to lower typical cone colorations and facilitate the smooth blending of the drivers.

Since the days when Joachim Gerhard ruled the roost, Audio Physic has used “narrow-baffle” cabinets, and the Avantera’s front panel is a mere 9.4" wide. Though narrow baffles (when properly designed) unquestionably allow loudspeakers to better “disappear” as sound sources—and the Avantera does this as well as any speaker I’ve reviewed—they can also create what is known as a baffle-step issue. For those of you who don’t know what this phrase means, “baffle-step issue” refers to suckout in the all-important power range, between approximately 100Hz and 500Hz. This suckout occurs when the wavelengths that the midrange driver is reproducing are longer than the (narrow) baffle the midrange cone is mounted on. In the absence of a wider baffle, these longer wavelengths “wrap around” the enclosure, and the driver starts to work in a 4pi (omnidirectional) radiation pattern instead of a 2pi (hemispherical) one. The consequent reduction in acoustic efficiency (there is substantially less sonic energy directed toward you, the listener, in those frequencies that are being radiated omnidirectionally than in those that are radiated hemispherically) can in turn produce an acoustic hole—a valley as deep as 6dB in the lower midband and upper bass, easily heard as a marked thinning down of timbre, power, and body.

Though certain reviewers seem to feel that this baffle step issue just “comes with the territory” of narrow-front loudspeakers—and can only be corrected by DSP or tone controls—designers like Diestertich aren’t as oblivious to the problem as these Doubting Thomases seem to think. By ensuring that the midrange driver (in the Avantera’s case, the separate 5.9" lower-midrange driver) is capable of operating linearly down to 100Hz, and side-mounting the 7" woofers on a narrow baffle (in the Avantera’s case, four woofs per speaker, two on each side, operating in a push-push configuration that cancels out cabinet vibration), and setting the crossover between the woofers and the lower midrange driver at 150Hz, you get the RTA printed at the top of p. 104.

See any baffle-step problem here? I don’t. Nor, more importantly, do I hear one. Indeed, this graph (taken at 5dB/division and one-sixth-octave smoothed) is high among the most linear in-room frequency-response charts I’ve taken—not just through the power range but overall.

Though I am anything but a measurement-first kind of listener and take these RTAs (via Dayton Audio’s fabulous OmniMic Precision Measurement System) only after weeks or months of listening, I’ve found that—regardless of the relative coarseness of such metrics compared to the wonders of the human ear—they do reflect the tonal balance I hear in my listening room with my ancillary gear. The plain truth is that the Avantera not only measures as if it is a superlative single-driver speaker; it sounds that way.

Beyond the highly engineered enclosure, a good deal of the credit for this feat has to go to the Diestertich-designed drivers (made for the company, using AP tools, by a company founded by former VIFA engineers). While they may not have the sex appeal of Magico’s and Rockport’s carbon-fiber-sandwich numbers, AP’s cones are—trust me—very high-tech and exceptionally well blended. Indeed, the Avantera’s tweeter, midrange, and lower midrange have much the same octave-to-octave seamlessness and “single-driver” sound as the tweeter and mid/woof in the most seamless cone speaker I’ve heard to date, the Magico Q1 (reviewed in our last issue), bespeaking extremely high linearity and low distortion.

Let’s take a closer look at those drivers, starting with the Avantera’s unusual tweeter. As AP points out

on its Web site, standard dome tweeters are inherently prone to bad behavior (they tend to ring at their apex and are, in any case, tricky to drive uniformly precisely because of their dome shape). To solve this problem, AP developed a tiny (1.75" diameter) cone tweeter with an exceptionally light, stiff, ceramic-coated-aluminum diaphragm. (All of the Avantera's drivers' diaphragms are made of ceramic-coated aluminum, which, Chief Designer Diestertich says, is "one of the many reasons why the Avantera's drivers integrate so well.") Called the Hyper-Holographic Cone Tweeter II or HHCT II, it is, according to AP (which appears to be fond of coining its own catch phrases), "the tweeter you can't hear."

Generally, there is more than a little seaweed in claims of this sort, but the plain truth is you can't hear the HHCT II—or, at least, I can't—the way I can hear, oh, the Magico beryllium dome tweeter in the Q5 (on-axis) or (very very slightly) the ribbon tweeter in the Maggie 3.7. Like the new Be tweeter in the Q1—maybe even more so—the HHCT II just isn't there as a separate and separable element of the sonic presentation, which, of course, means that the treble range (along with the bass, the trickiest thing for a multiway dynamic to get right) is superb. The high end of the Avantera strongly reminds me of the high end of the Magico M5 (not its only resemblance to that great speaker, BTW) in that you're simply not aware of the tweeter's presence until something high in pitch with a good deal of transient energy—like Butch Miles' cymbal work on Reference Recordings' superb new LP version of *From the Age of Swing* or the "Bartók pizzicatos" in the (all-pizzicato) fourth movement of the Juilliard Quartet's sizzling performance of Bartók's *Fourth String Quartet* [Columbia 1963]—comes along, and the instruments and the performers simply pop out like heads through a curtain, fully fleshed, precisely focused where they should be on stage, without any loss of color on steady-state tone or intensity on attack or duration on decay. Nothing is missing, although it may seem so at first because, for once, nothing is added—none of the forwardness or raggedness or extra emphasis that you so often hear with metallic dome tweeters. (The slight "Gundry dip" probably plays a part in the Avantera's unusually civilized top end.)

Of course, disappearing acts in a multiway dynamic loudspeaker aren't attributable to the excellence of a single driver. Great treble—and the Avantera has great treble—is a two-way street. To make the tweeter as invisible as it is, the midrange to which it crosses over must also be invisible, sonically. Its out-of-passband breakup modes must be successfully lowered so they don't "rough up" the presence and brilliance ranges where the baton is passed to the tweet. Here the blend of midrange and tweeter (and subsequently of midrange and lower midrange drivers) is as seamless as I've yet heard in any cone speaker.

Everything that I said about the HHCT II is equally true of the two ceramic-coated aluminum 5.9" Hyper-Holographic Cone Midranges (HHCM) used for the midband and lower midband. The Avantera boasts a simply superb blend of its smallish, featherweight, high-resolution, very-low-distortion drivers—not a one of which can be isolated by ear (or, at least, by my ears and those of friends who've heard the speaker). Demure as these drivers are (and as the speaker enclosure is), no instrument gets lightened up or thinned down by the Avantera. As demonstrated in the RTA above, its response through the all-important power range from 100Hz to 500Hz is textbook. Thus, when something like the horn section rolls in midway through "You're Driving Me Crazy/Moten Swing" from *The Age of Swing*, it rolls in with the impact of beach break at high tide. Density of tone color and sheer instrumental weight are sensationally lifelike on trombone, sax, trumpet. You would not expect such acoustic power from such a trim speaker, and yet you get it in the same way as you get everything up top—without any losses, false emphases, colorations, or discontinuities.

As good as it is with large-scale stuff in the midband, the Avantera is just as good with small. (Not for naught that motto: "No loss of fine detail.") The little things that trip up most dynamic loudspeakers—such as Joan Baez and Alison Kraus and Melody Gardot's vibrato or, to use an example I cited earlier,

the difference between the plucked-string snap of a standard pizzicato and the sharp slap of that string against the fingerboard on a Bartók pizzicato—the little things that go such a long way toward describing the human intersection between music and instrument are here captured with exceptional clarity (and with no loss in density of tone color or dynamic speed and weight at low levels or high ones). I have heard the Avanteras resolve musical (and engineering) details that only a very few other cone speakers are capable of reproducing this clearly and completely: backup vocals and instrumental and electronic fillips on the Talking Heads' thrillingly "alive" (albeit somewhat dry and digital) *Stop Making Sense* or inner string, wind, and brass voices on the orchestral tuttis of that old RCA chestnut *Venice*. No, the Avanteras don't quite equal the low-level resolution of a \$60k Magico Q5 or a MartinLogan CLX electrostat. But they are at least the equals of the Magico M5s in this regard—near-\$100k loudspeakers that, no more than a year or so ago, were paragons of low-level resolution in dynamic loudspeakers. As a result, the Avanteras are capable of sounding very close to real on select vocals and instrumentals.

I guess I should also note that, dynamically, these little speakers are veritable sticks of dynamite and, if it isn't already obvious, superb soundstagers—going as wide and deep and tall as any speakers I've heard short of omnis. However, unlike certain omnis, their staging isn't one-size-fits-all—it is always commensurate with what was recorded—while their imaging has the precision and front-to-back, side-to-side clarity of a mini-monitor with none of a mini's reduction in natural image size.

Where aren't the Avanteras world-beaters? Well...you may have noticed that I haven't talked about their bass yet. Lest you think I'm about to spring a "gotcha," rest assured that the Avanteras' low end—and the blend of those side-firing woofers with the other drivers—is superb, where the speakers play. The only question is where do they play? When I heard the Avanteras a few months ago at RMAF, they seemed to be limitless in low-end extension and power delivery. On really high-energy, deep-reaching music—such as the drum break on Clearaudio's *Percussion Record* or the wild and wooly orchestral tuttis at the close of Ponchielli's "Dance of the Hours" from *Venice*—they shook me (and the room) like no other speaker at the Denver show, save for the Estelon XA-Ds.

In my digs, however, things are a bit different. Probably because I have the speakers considerably farther out from the sidewalls than importer Reinhard Goerner did at RMAF (and than AP recommends in its excellent set-up guide), I'm not getting the reinforcement in the low bass that Reinhard got. As a result, as you can see from my RTA, really low end is a bit curtailed—the speaker is flat to about 44Hz (vis-à-vis 1kHz), down approximately 4dB at 40Hz, 6dB at 35Hz, and better than 12dB at 30Hz (once again, in my room with my setup).

Of course, this is scarcely shabby bass response for any speaker, much less one that is a mere 9.4" wide and 16.5" deep. But the quality of the low bass is also a little ambiguous. I'm guessing here, but I'd wager that the Avanteras' MDF enclosures—as highly engineered and beautifully built as they are—may be storing and adding a little of their own energy to the soundfield, in the same way that the M5s stacked birch enclosures were. In any event, the Avanteras' deep bass sounds a wee bit little less well resolved than the current ne plus ultra in dynamics, the Q5. Though neither muddied nor masked, things like Tina's bass intro to "Take Me to the River" or that solid block of bass guitar that ascends like it's on risers beneath the guitars, dobros, and mandolins midway through Alison Krauss' rousing live version of "Forget About It" aren't quite as crisply defined or as room-rattlingly energizing as they are through the Q5s. On the other hand, on bass passages within their range of flat response—such as the deep, pounding chords that end the first movement of Paul Dessau's romantic *First Piano Sonata* or the cello *marcatos*, *glissandos*, and *pizzicatos* of Bartok's *Fourth Quartet*—every note at every dynamic is presented with an intensity, clarity, focus, and naturally full and rich timbre that seamlessly match that of the midrange and treble.

I guess what I am saying is that I don't know whether the Avanteras' low bass typically sounds the way

it does in my room or the somewhat more extended and explosive way it did in Denver. Which is another way of saying that you will need to experiment with placement (closer than usual to sidewalls, as AP suggests) if you're not getting all the very low end you want.

One thing you will not have to trouble yourself about is amplification. The speaker is a benign 4-ohm load rated at 89dB sensitivity. I've heard it sound great (in Denver) with a relatively low-powered solid-state integrated amp and equally great in my place with powerful tube monoblocks.

It should be obvious that the Audio Physic Avanteras easily earn my highest recommendation for all three types of listeners—"absolute sound," "fidelity to mastertapes," and "as you like it." Beautifully engineered, beautifully built, and beautiful to hear, they offer a startling amount of the transparency and lifelike realism of the very best dynamic speakers I've heard—and are arguably better blended than several of those paragons. Though not quite as ultra-finely detailed in the midband as something like a Q5 (nor as deep-reaching, well-defined, and explosively dynamic in the very low bass—at least in my room), they come so close to this ideal for so much less money that I find them downright irresistible. I think a good many of you will, too. To get this kind of natural timbral warmth, weight, power, resolution, extension, and top-to-bottom seamlessness in such a small, stylish package is rare, indeed. It just goes to show (yet again) what a world-class engineer with great ears, such as AP's Manfred Diestertich, can accomplish.

SPECS & PRICING

Type: Floorstanding three-and-a-halfway dynamicloudspeaker in a dual-portedenclosure with side-firing woofers

Drivers: One 1.75" ceramic-coated aluminum cone tweeter,two 5.9" ceramic-coated aluminum cone midrange, four 7" ceramic-coated aluminum cone woofers

Crossover points: 150Hz,2.8kHz

Frequency response: 25Hz–40kHz

Sensitivity: 89dB

Impedance: 4 ohms

Recommended amplifier power: 40–250W

Dimensions: 9.4" x 45.3" x 16.5"

Weight: 88 lbs. each

Price: \$27,000

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