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First Listen: Atlantic Technology AT-1 H-PAS Speakers

Surprising value and ample bass from an attractive set of floor speakers.

By Daniel Kumin

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Key Features

Price \$2,499/pair

- (2) 5-1/4-inch cone woofers, 1-1/8-inch soft-dome tweeter
- Unique "H-PAS" vented/horn/transmission line enclosure
- 3-position tweeter-level switch (0, -1, -2 dB)
- 41 in high, 13-3/4 in deep, 9 in wide; 54 lb

I've seen plenty of loudspeaker "break-throughs" in my half-a-lifetime around the audio sideshow, including speakers shaped like ears, tubas, and croquet balls. And there have also been "revolutionary" new driver designs that resembled stars, chafing dishes, or origami (the Heil Air-Motion Tweeter of the 1970s - in itself quite legit - whose commercial debut was immortally characterized by an audio wag who shall remain nameless as "a marshmallow with a flame-thrower on top").

Yet somehow, even here in the 21st century, serious hi-fi is still delivered overwhelmingly by cones and domes mounted in boxes, be they vented bass-reflex or sealed acoustic suspension cabinets. Why? Because these hoary inventions, well over a half-century old, are still what works best.

So, when Atlantic Technology's Peter Tribeman called to invite me to hear a preproduction sample of a new speaker with an important new enclosure design, I remained - Boston-born though I am - from Missouri (the "show-me" state). On the other hand, I'm well aware that Tribeman, whose boyish face always seems to suggest a bit of P.T. Barnum twinkle, has had a hand in establishing at least four A/V firms (AudioPulse, NAD, Proton, and Atlantic Technology itself), each of which has bowed at least one important, and in some cases game-changing, innovation.



What I found at Atlantic Tech's no-nonsense headquarters just south of Boston was a version of the new AT-1 speaker seen here: an attractive, seemingly ordinary enough mid-sized tower, the speaker configuration most popular amongst serious two-channel listeners. Conventional drivers, conventional crossover, conventional size and shape; the only unusual thing about the AT-1 was the huge rectangular port gaping from the front baffle's bottom.

That is, until Tribeman pressed "play" and the conventional-looking speaker produced deep bass, including bottom-octave orchestral sound to well below 30 Hz, with the power and impact of a well-sited 12-inch subwoofer, or dual-10-inch "power-tower" pair. My jaw may not have visibly dropped, but I was impressed. Fast-forward a few months to today: I have now lived with a production pair of AT-1s for several weeks, and my opinion remains fundamentally unchanged.



The AT-1 tower's plus-sized port is the only external sign of what Tribeman and designer Phil Clements (of Solus/Clements Loudspeakers) have dubbed "H-PAS" (Hybrid Pressure Acceleration System), a new vented-enclosure wrinkle that the team describes as combining elements of acoustic-suspension, bass-reflex, horn, and transmission-line designs. (Hell of a claim, I know, but after conversations with Boaz Shalev, Atlantic Tech's resident H-PAS egghead and computerized finite-element analysis wizard, I understand it well enough - barely - to accept it.) Atlantic asserts that H-PAS extracts more low-frequency acoustic output from a medium-sized woofer's motion - which physics doom to fall off more or less rapidly in every loudspeaker short of garage-sized - than any previous passive, un-equalized design, and without the sensitivity ("efficiency") or distortion penalties of traditional vented, horn, and transmission-line layouts.

And, at least in the AT-1, H-PAS performs as advertised. A bit paradoxically, however, the AT-1's ability to make real bass may not amaze less critical listeners, because plenty of similar-sized speakers produce subjectively impressive bass, usually via an intentional rising frequency response through the 120 Hz-60 Hz octave, before falling off sharply below that point. But it should gobsmack knowledgeable audiophiles.

In my room, Atlantic Tech's modest towers yielded what I judged to be unfettered output to at least 30 Hz. And by "unfettered" I mean flat or damned near so - not -6 or -10 dB (or more) at 30 Hz, which is how every other speaker remotely close to this size would measure.

The AT-1's "real" extended bass is not so easy to hear with typical pop music, but with the right material it becomes almost obvious. For example, the famous



bass drum - the “drum that launched ten thousand audiophiles” - on a Telarc recording of Elgar’s “Pomp & Circumstance Marches” (it’s commencement season as I write this) sounded tight, deep, and resonant, just as it should. And you simply must have solid output to below 35 Hz to hear that detail.

But careful selections from the pop canon proved capable of showing off the AT-1’s abilities as well. “Gaia,” from James Taylor’s Hourglass, includes a very low, resonant big-drum-and-reverb event that bass-limited speakers merely hint at, but which the H-PAS towers delivered with remarkable authority, clarity, and freedom from bloat.

I happened to have on hand a pair of almost identical-sized (and similarly priced) towers from another maker employing three 5.25-inch drivers per speaker and conventional vented alignment. Direct comparison was revealing: On the conventional towers, the fundamentals of those last drum strikes from “Gaia” were almost entirely missing. What I heard instead was a “doubling” of content an octave higher, which yielded obviously muddier, blowsier, lower-impact results.

North of, say, 150 Hz, the AT-1 strikes me as a speaker design straight out of the Atlantic Technology playbook: tight, precise imaging; accurate, unromantic midrange; slightly forward, though unexaggerated, top octaves. By

“tight and precise” I mean a musical soundstage that is well defined and easily localized left to right, but without a great deal of depth - something fairly typical of speakers with midrange-tweeter-midrange layouts like the AT-1’s. (In my view this “tightness” becomes an asset in multichannel playback, where it helps to support clarity and spatial precision.) And by “unromantic” I mean free of the slightly enriched output in the male-voice octaves that makes so many speakers sound a touch warmer.

While I found the AT-1’s horizontal coverage to be excellent, its vertical “sweet-spot” was fairly narrow. This made speaker positioning critical: In my room, tilting the speakers back a fair degree by adjusting the supplied spikes higher in front delivered easily heard gains in openness, clarity, and treble “air.” Reproduction of massed strings was now vibrant and “toothy” but unstrained, and well-recorded cymbals were conveyed with a lifelike, airborne sizzle. (The speaker’s rear-panel tweeter level might also come into play here; I listened with the “0 dB” setting selected.)

The AT-1 is not perfect: Like all floor-standing speakers it requires a certain amount of space for optimum placement relative to the walls and each other, and like all full-range designs, it is subject to the oft-divergent imperatives of practical and acoustical considerations - something that a sub/sat layout often mitigates. And while the Atlantic design played loud as hell without complaint (absorbing 150 watts per speaker) and delivered powerful deep bass, I detected the faintest of timbral tickles on just a few low notes, almost as if a shred of Kleenex was oh-so-softly blowing in the port. This was perhaps an H-PAS artifact, but it could also have been merely a speaker/room interaction.

BOTTOM LINE

Other speakers of the Atlantic Technology’s ilk and price range exist that can equal its accuracy over the top eight octaves of sound, although these are bound to roll off far more quickly across the bottom two. And some offer imaging that is rounder and more spacious in the audiophile sense. But the AT-1’s overall performance/value quotient is difficult to overstate; in direct comparison to my somewhat more expensive everyday small monitors, the AT-1s’ very closely matched them when it came to tonal balance, imaging, and transient ease, while adding at least an octave of true low bass. A critical listener with a demand for deep bass, but no space or desire for a subwoofer, could scarcely do better.

Atlantic Technology promises to bring other H-PAS models to market in the course of 2010, and the technology’s developers hope to license it to other brands in relatively short order. I, for one, will be keeping an ear out.