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 Soundbar Reviews

Atlantic Technology PB-235 PowerBar Soundbar

By Darryl Wilkinson • Posted: Oct 12, 2012



Price: \$899 **At A Glance:** H-PAS bass enhancement [technology](#) • Multichannel DSP for two-, three-, or five-channel soundfield simulation • Switchable display for top or bottom orientation

HOME THEATER TOP PICKS

★★★★★	
Performance	★★★★★
Features	★★★★★
Ergonomics	★★★★★
Value	★★★★★

Frank·en·bar [frang-kuhn-bahr]: noun 1) a soundbar with parts and pieces taken from traditional home theater systems—processor, switcher, amplifier, remote control, speaker drivers, etc.—which are bolted together into a single cabinet and shocked into life with one power cord. The typical Frankenbar has a dual purpose: a) to provide much-improved sound quality over that produced by the speakers built into modern televisions (such an easy task, by the way, that it could seemingly be accomplished by a couple of tin cans and a string); while at the same time b) significantly reducing the number of boxes in the system, as well as dramatically simplifying the installation process. 2) The ultimate example of an all-in-one integrated system, except for the fact that virtually every Frankenbar—or any soundbar, for that matter—usually requires a subwoofer in order to sound acceptable to the human ear. This mandatory subwoofer, by virtue of being a physical object that takes up floor space, is more often than not considered both an eyesore and may in some areas be legally acceptable grounds for divorce.

Sell the Sizzle

For well over a year, Peter Tribeman, Atlantic Technology’s founder and obscure-movie-clip devotee, has been showing off prototypes and making bold claims for the company’s latest Frankenbar, the PB-235 PowerBar with H-PAS technology. Without a hint of modesty, he boasted that, for under \$900, the new all-in-one, powered soundbar would be extremely musical, capable of filling even fairly large rooms with remarkably believable 5.1-channel effects (as well as unbelievable two-channel performance), and—here’s where he seemed to be going off the deep end—it would be the world’s first and only soundbar that didn’t absolutely require a subwoofer. This would be the case, he promised, because the new H-PAS PowerBar-235 is



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claimed to be capable of producing respectable amounts of bass down to as low as 47 hertz.

Forgive me if I smell the stinging scent of sizzling snake oil in the air. Without the crucial aid of a subwoofer, not many soundbars are lucky to get within spitting distance of 100 Hz, and a disproportionately large number don't have a prayer in hell of getting below twice that frequency. Sadly, even some of the subwoofers that are packaged with soundbars struggle to get to 47 Hz at a reasonable level. While it's obvious that you'd want the subwoofer to go as low as possible, what difference does it make if the soundbar itself can't go down to 100, 150, or even 200-plus Hz? Can't the crossover point on the subwoofer be adjusted upward so the sub can output the bass frequencies the soundbar lacks?

That, as a matter of fact, is exactly how many companies design soundbar/subwoofer combos. [Relying on](#)  the "subwoofer" to produce lots of midbass isn't necessarily a big deal if the soundbar sits directly on top of the subwoofer. But since sound waves above 80 Hz or so start to become more directional the higher the frequency is, there's trouble waiting for any system in which the midbass-cranking subwoofer isn't located in close proximity to the soundbar. Separate the sub from the soundbar, and what you'll hear is a sometimes not so subtle smearing, or even a jumping of the apparent point of origin, of low sounds and deep voices between the soundbar and sub. James Earl Jones's voice of Darth Vader may be bigger than life, for example, but it's not supposed to sprawl fat and sloppy halfway across the room. The effect is more prevalent when you're closer to the sub than you are to the soundbar, so if you've hidden the sub behind the couch where you're sitting to keep it out, you'll probably notice it more than if the sub were in the front of the room or a far corner. Seamless coherency between the bass and midrange is a key reason a soundbar that can reach low into the bass range is potentially desirable. But how do you make that happen?



Four Inches Is Supposed to Impress Me?

I'll give you the standard stuff about the PB-235 first. It's a modest 42.75-inch-wide soundbar that's 6.5 inches high and 6.5 inches deep. The left and right sides are slightly curved, and there's a 9-inch-wide by 1-inch-tall arched Control Pod on the top of the cabinet. Located on the front-facing side of the Control Pod are the power button, the volume up/down buttons, a Mode button, a window for the built-in IR receiver, a 3.5mm minijack audio input, and a status display window. On the back of the Control Pod are the PowerBar's four other audio inputs (a coax digital, two optical digital, and a stereo pair of analog RCAs), an analog subwoofer output (with dedicated on/off button), an input for an external IR eye, and a jack for the external power supply. The PB-235's front and sides are covered by a black cloth grille, while the top, bottom, and back have a painted black finish, giving the speaker a traditional, low-key look. The

soundbar can be mounted on the wall using keyhole slots on the back, and there are threaded inserts for use with an optional wall-mount bracket or to otherwise attach the PowerBar to a flat-panel HDTV's wall mount or stand. The soundbar comes pre-configured to use with the Control Pod oriented on top, but you can quickly flip and reconfigure it to operate with the Control Pod on the bottom—in which case, the display window's text rotates 180 degrees, and the left and right audio inputs are internally swapped. Atlantic Technology includes an alternate faceplate with the labels oriented properly for use when the Control Pod is on the bottom. The PowerBar also comes with a rectangular, basic IR remote control that's about the size of a Nutter Butter cookie. (The regular ones, not the Bites.)

If you bothered to wade through the details, you might have noticed the absence of HDMI connections. The PowerBar doesn't do video, so if you want to hook up a Hopper, a Blu-ray player, an Apple TV, or a Roku box, as well as your [laptop](#), you're going to have to do the video switching through your TV. No HDMI also means no DTS-HD Master Audio or Dolby TrueHD decoding for Blu-ray discs, though this is common for most soundbars.

What's behind the grille is almost incomprehensible when you consider that the PB-235 is supposed to be able to create a simulated 5.1-channel effect even in large rooms in addition to breaking the sub-50-Hz bass barrier. All you'll find on the front baffle is a 4-inch cone bass driver and 0.75-inch tweeter combo on the far left side with a mirror-image combo on the right. Near each tweeter is a rectangular (2.75 inches wide by 1.25 inches tall) forward-firing port. There are no other drivers or passive radiators.

Shake Your Bass-Maker, Honey

So where's this magic bass-maker in the PowerBar that's somehow capable of getting audible amounts of frequencies under 50 Hz out of a pair of 4-inch midrange drivers mounted in a 42-inch-long, 6 x 6-inch box? My initial thoughts were that the PB-235 must use special built-in cylinders of compressed bass that work the same way my SodaStream carbonator does. Whenever a frequency under 100 Hz needs to be reproduced, the bar lets loose a blast of gas from the internal bass cans. I scoured the literature, certain that somewhere I would find a mention of replacement bass canisters for \$29.95 each. (A great recurring revenue stream for Atlantic Tech.) Wasn't this, in fact, what the H-PAS (Hybrid Pressure Acceleration System) [technology](#) in the PowerBar was all about?



Somewhat disappointingly, there are no canisters of compressed bass inside the PowerBar. (It would have been pretty cool, though, right?) Instead, H-PAS is the name for a bass system that combines principles of four different box [technologies](#): acoustic suspension, inverse horn, bass reflex, and transmission line. (In other words, this Frankenbar uses Frankenbass.) The technologies are cascaded one to another, terminating with a port on the opposite side of the cabinet.



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Noted speaker designer Philip Clements developed a forerunner of the technique over 30 years ago. More recently, Atlantic Technology's H-PAS chief technology officer, Boaz Shalev, worked with mathematician extraordinaire Martin J. King, using finite element analysis to significantly refine and improve the engineering process for H-PAS speaker systems. The new H-PAS designs rely on the back-pressure chamber configuration to do the heavy lifting of the lower frequencies, which allows for the use of smaller, high-resonance drivers (4 inches in the case of the PowerBar), that are much faster in reaction time than a larger driver would be. The intended results are snappier bass and lower overall distortion since the midbass drivers aren't being equalized like crazy or overdriven into the sonic equivalent of a nervous breakdown.

Interestingly, although it took plenty of [computer](#) number crunching to perfect H-PAS (something like 2 million calculations per model), it is ultimately an air-moving analog-domain technology. On the other hand, getting a couple of 4-inch bass drivers and 0.75-inch tweeters to sound even vaguely like a five-speaker setup takes plenty of built-in on-the-fly DSP horsepower. Once a DTS or Dolby Digital signal gets inside the PowerBar via the coax or optical inputs, special DSP programming on a CSR-brand SoC (System-on-Chip) looks at all the channels, determines where all the directional cues are, and then re-interpolates it all in a way that creates a psychoacoustically plausible three-dimensional soundfield—even though it's being played back through what is essentially a stereo pair of speakers built into one 42-inch-long cabinet. On the flip side, the Powerbar can also take two-channel input signals, extrapolate directional and spatial cues buried in the left and right source channels, and then create a larger simulated three- or five-channel experience through those same two speaker channels.

Penguins, Battleships, and a Pair of Cellos

It's hard to decide whether to [talk](#) first about the PowerBar's bass response given the size of the cabinet and drivers or its overall sound quality. Each was equally jaw dropping. It turns out that the H-PAS technology built into the PB-235 performed, at least for me in my room, exactly as advertised. Mounted on the wall beneath my Samsung plasma HDTV, the PB-235 managed to smoothly go down to what my test tones and SPL meter told me was 47 Hz before it started running out of gas (literally, I guess). It's one thing to measure the output, of course, and another to experience it. Often times with a ported speaker, there's what I'd describe as a softness or gentleness to the bass. That's not the case with the PowerBar. Although it doesn't hit you as deep in the gut as a dedicated subwoofer extending down into the 20-Hz range would, the PowerBar's bass is tight, and punchy. And, unlike some small-cabinet speakers in which the bass gets goosed around 50 Hz or so in order to give the impression of more bass, Atlantic Technology's bar sounded smooth and natural until it rolls off.

To be clear, I'm not saying the PB-235 wouldn't benefit from the addition of a subwoofer, especially for action movies. I am saying, however, that for a wide variety of people and [applications](#), the PB-235 will do just fine all by itself. During the final scenes of Happy Feet Two, for instance, the deep voices of the arguing elephant seals are impressively full and rich. What's more, thanks to the PowerBar's ability to go to depths other soundbars fear to descend, each seal's voice is a coherent, stable, and intelligible whole rather than something that's skewed and stretched across the room as the words straddle the divide between soundbar and sub. Although I hesitate to mention it because I'm currently suing the studio to get the 131 minutes of my life back, in the movie Battleship, there are scores of scenes filled with explosions, vibrations, machine gun fire, and other low-frequency effects—especially during the final battle

between the un-mothballed U.S.S. Missouri and the alien mother ship. Due to the PB-235's taut, dynamic bass, I never once felt the movie experience to be lacking oomph and power (except in terms of plot, character development, and acting).



The PB-235's ability to create a simulated multichannel experience in the room was absolutely uncanny, as it time and again reproduced a soundfield that seamlessly stretched from the center of the screen, across the front wall, then down each side wall until it wrapped almost completely around my head and melted into itself. The spinning destructo-balls fired by the aliens in Battleship were quite spectacular as the PowerBar clearly placed each element of the resulting mayhem throughout the room—even to the point, at times, of placing effects slightly behind my head. Similarly, in Lockout, during the final assault on the prison ship MS-1, the dialogue is extremely clear and locked into place in the center while the music background spreads all the way across the front wall of the room. At the same time, there is utterly explosive chaos along the side walls and even slightly toward the rear. With the sole exception of being able to place surround effects more distinctly in the rear of the room, there are precious few other \$900 soundbars that can even dream of coming close to creating such a fantastic panorama of sound.

The PowerBar is a musical knockout as well. The bass in Carole King and James Taylor's version of "Fire and Rain" from their Live at the Troubadour DVD was mesmerizingly super-smooth and, once again, absolutely astonishing in its depth considering the size of the box it was coming from. Taylor's voice was full, rich, and...well...real, something I attribute almost exclusively to the PB-235's ability to reach down so low without assistance. Guitar strings, piano notes, and drum hits were all crisp and alive with detail. Luka Sulic & Stjepan Hauser's two-cello version of Coldplay's "Viva La Vida" on the duo's self-titled 2 Cellos disc showed off the PowerBar's ability to re-create the sense of space around the cellists, especially at the end of the piece when the dying echoes of the upper notes of a single cello can be heard fading away. The upper strings were smooth and natural, while the lower notes came through with heft and authority.



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Say Hello to the HTIBB

I could go on about the PB-235's musicality and theatricality, as well as the way in which it turned standard-fare television—such as *The Newsroom* or *Dr. Who*—into an exciting wall of sound. I could mention the Speech mode, in which the dynamic range of the upper and lower frequency ranges is limited to make the dialogue more intelligible for late-night movie or TV watching. I could complain that I misplaced the PowerBar's tiny IR remote more than once (until I programmed the functions into my Hopper remote), or that switching video inputs on the TV and audio on the PowerBar is a pain in the ass. (Okay, it was and I will.) But, I'll also say this: Peter Tribeman wasn't only dead-on right with his seemingly outlandish claims for this new soundbar—he just might be a friggin' home theater prophet. Atlantic Technology's H-PAS PowerBar is a marvelous combination of affordability, [performance](#) [↗](#), and simplicity. It's home theater in a *better box*.



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Atlantic Technology PB-235 PowerBar Soundbar Specs

Specs

PB-235 PowerBar

Type: Soundbar

Tweeter (size in inches, type): 0.75, soft dome (2)

Woofer (size in inches, type): 4, [paper](#) [↗](#) cone (2)

Rated Power (watts): 80

Connections

Inputs

Audio: Coaxial digital (1), optical digital (2), analog RCA (1), analog mini jack (1)

Additional: Front IR eye (1), rear IR port (1), switchable subwoofer out RCA (1)

Available Finishes: Black matte

Dimensions (W x H x D, inches): 42.75 x 6.5 x 6.5

Weight (pounds): 18

[Price](#) [↗](#): \$899