

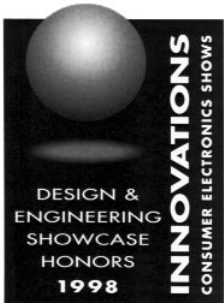


# HOME Theater

## Atlantic Technology System 450

A THX speaker system for the rest of us.

by Al Griffin, CFG Labs



When Atlantic Technology first introduced their System 350 THX speaker system, the audio world's collective neck did a 360-degree turn. Here was a system that satisfied the THX demands for movie soundtrack performance, and yet also managed to sound great on stereo music. How did Atlantic Technology swing it?

Up until that point, the majority of companies dabbling in THX speaker design were producing remarkably similar (and some would say remarkably expensive) systems. Atlantic Technology, on the other hand, decided that they could do better than crank out

another cookie-cutter THX rig, and set to work to create a reasonably-priced system that absorbed THX principles but molded them to meet the needs of music enthusiasts—and to get rid of the vertical center speaker that was then standard for THX systems.

The first move on Atlantic's part was to dispense with the multiple tweeter design that other manufacturers employed in order to meet the THX requirement for limited vertical dispersion on the front LCR speakers. Radically re-thinking the process, the company produced a three-way front speaker that used two midrange drivers closely flanking a single tweeter in a D'Appolito configura-

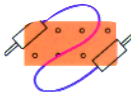
tion. This array was mounted on a special plate that was flipped horizontally for the System's 353 C center-channel speaker—the first THX center speaker that could be set horizontally on top of a TV (which we all know was the directional orientation that God intended for center speakers).

Aside from the horizontal center speaker, the most significant end product of Atlantic Technology's innovative approach to THX speaker design was the creation of a front-channel speaker complement that satisfied THX specs but didn't sound nearly as beamy (or directional) as the other THX systems on the market. As you can imagine, this bode well for the system's performance on music.

Though System 350 remains in

- A.** The 454's triangular dipole comes with an optional stand.
- B.** New driver and crossover designs distinguish the 451 LR from its predecessor.
- C.** The center speaker includes a boundary compensation circuit.
- D.** The 15-inch sub handled *GoldenEye's* tank scene in rumbling fashion.





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the Atlantic Technology speaker line, the company felt that they could one-up themselves and produce an ultimate THX system that

would exceed the 350's achievements. The main improvements in the System 450 are in the driver and crossover design. A gloss-black cabinet finish has been added, as well, making the system an overall slicker-looking package than the 350. Additional changes include a powerful new subwoofer, and a redesigned center speaker. Whereas the System 350 employed two 200-watt powered subs, each with a 12-inch woofer, to generate enough bass output to meet THX spec, the System 450's single sub achieves

the same level of performance.

The 453 C center speaker's driver complement exactly matches the System's 451 LR main speakers. A variable boundary-compensation control, however, has been added to the speaker to compensate for placement-oriented midrange anomalies. Many manufacturers, including Infinity and Aerial Acoustics, have been including this type of control in their center-speaker designs to improve dialogue reproduction. Atlantic Technology, however, is the first THX licensee to venture into this area.

The 451 LR satellite is a three-

way design using two 6.5-inch injection-molded graphite woofers, two 3.5-inch injection-molded graphite midrange drivers, and a 1-inch silk-dome tweeter. The midranges and the tweeter are mounted in a tooled aluminum plate, instead of the phenolic plate used on System 350. Both the woofers and midrange drivers are larger than the ones found on the System 350's satellites, enabling the System 450 to play exceptionally loud without any sacrifice in clarity. Atlantic Technology provides an optional set of stands for the 451 LR. A threaded rod secures the 451 LR to the stand. The stands are quite sturdy (particularly when filled with kitty litter) and match the speaker's glossy black-laminate finish.

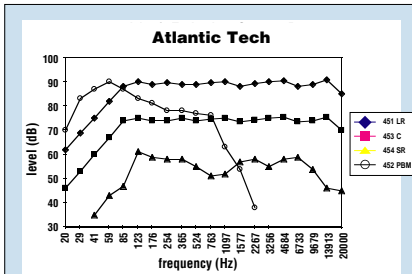
Dialogue duty in the System 450 is handled by the 451 C center speaker. The 453 C uses the same drivers, but includes the aforementioned boundary-compensation circuit, controlled by a knob on the speaker's back panel. A toggle switch next to the knob can be switched to either the THX setting, which bypasses the circuit entirely, or variable control, which allows you to adjust the speaker's midrange to compensate for a bloated quality in the midband that may result from placing the speaker on a TV. I tried the 453 C in a number of configurations, including a stand-mount when used with a front-projection setup, on top of a 40-inch rear-projection TV, and on top of a 35-inch direct-view TV. The only situation where I felt that the boundary-compensation circuit could improve things was when the 453 C was used with the 35-inch direct-view set; fiddling with

the adjustment here helped filter out a lower-midrange thickness that adversely affected dialogue.

The 454 surround speakers are triangle-shaped dipoles that use 5.25-inch woofers to achieve deeper bass response than the surrounds accompanying the System 350. This means the 454 is very much ready to meet the needs of 5.1-channel discrete digital soundtracks. The 454 surrounds feature a gloss black-laminate cabinet finish, and can be either wall-mounted or set on a pair of optional matching speaker stands.

Perhaps the most exciting thing of all about the new System 450 is the 452 PBM THX subwoofer.

Although multiple subs have their advantage, I usually prefer to use one substantial sub for reasons of convenience and aesthetics. After all, any THX-certified speaker system, even one as slim and unobtrusive as the System 450, is bound to visually dominate the room; as a general rule it's best to limit the amount of black cabinets that you load into your home theater. For Atlantic Technology, the 452 PBM marks a real departure: With its 15-inch driver and 325-watt amplifier, this is a powerhouse sub the likes of which we haven't yet seen from the company. The 452 PBM provides the standard array of subwoofer ins and outs, including high and low level inputs, high-pass output, phase-invert switch, and variable crossover. The variable-crossover control, however, has a THX external filter setting that enables you to bypass the sub's crossover entirely when used with a THX controller, and the volume-control knob is located underneath the grille on



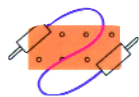
**CFG Labs Measures: Atlantic Technology System 450**

This chart shows the frequency response of all the speakers in the System 450. We measured them at a base level of 90 dB, then scaled the surround and center-speaker curves to fit this graph.

The 451 LR and 453 C have some of the flattest response curves we've measured:  $\pm 1.4$  dB from 85 Hz to 17.2 kHz. (The two speakers measure very similarly.) The treble response falls by about 4 dB at 20 kHz. The bass response falls off below 90 Hz at 15 dB/octave. (This is not deep bass response, but these speakers are specifically designed to be used with a subwoofer.) The impedance runs mostly between 4 and 5 ohms in the mid-range, dropping below 4 ohms only in small dips centered at 115 and 440 Hz. (The low is 3.8 ohms at 115 Hz.)

We measured the 454 SR surround speaker against a wall, on axis with the center of the speaker. Its response is fairly flat for a dipole speaker against a wall:  $\pm 7$  dB from 90 Hz to 13.1 kHz. Its impedance runs below 4 ohms between 218 and 492 ohms (with a low of 3.67 ohms); it runs below 5 ohms from 153 to 706 Hz, and again above 8.5 kHz.

The 452 PBM's response peaks at 64.8 Hz, and falls off at about 6 dB/octave below that. Below 25 Hz, it drops off very quickly. (THX specifies a bass rolloff below 35 Hz to counteract the effects of room gain.)



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the sub's front panel. Additionally, an auto-on feature will turn the sub on when it senses an incoming signal, and shut it down after 7 to 10 minutes of inactivity.

## HIGHLIGHTS

- **A THX-certified speaker system that sounds great on music**
- **453 C center-channel speaker features boundary-compensation control**
- **452 PBM subwoofer can kick out the bass like no other subwoofer yet produced by Atlantic Technology**

I started out my sessions with the System 450 listening to Dolby Digital discs, using an ADA PTM-6150 amp and a Pioneer VSX07TX receiver as a Dolby Digital/THX 5.1 processor. The first laserdisc I used for my testing, *Crimson Tide*, has a soundtrack that quickly alternates between

shouted and spoken dialogue, subtle bleeps from electronic monitoring equipment, and violent spasms from the various emergencies occurring onboard its submarine set-piece. The disc provided a more-than-adequate dynamic range workout for the system.

Watching *Crimson Tide*, my immediate impression of the 450 was that these are the best THX speakers I've ever heard: I was consistently gripped by the system's ability to pull out fine sonic detail from heavily layered backgrounds drenched in orchestral music and less-than-subtle SFX. Since *Crimson Tide* provides a steady stream of low bass to keep the viewer on the edge of their seat, the 452 PBM subwoofer was given plenty of room to prove its worth. And prove its worth it did: The 452 PBM sounded consistently tight and punchy throughout every scene in *Crimson Tide* I subjected it to, always providing enough low-fre-

quency extension to adequately convey the full drama of an explosion or a torpedo shot.

What home theater speaker system review is complete without giving *GoldenEye* at least one spin? The tank scene in this film is a serious room shaker and eardrum splitter (some would say that this scene in itself provides a justification for THX's Re-EQ feature), but the films opening in the Arkangel chemical-weapons facility provides a more balanced mix: Subtle Foley effects, surround ambience, and dialogue dominate, and then build up to a crescendo of gunshots, run-away airplanes, and other forms of insanity. The System 450's performance on this scene was as impressive as anything I'd heard when watching on *Crimson Tide*. Dialogue and SFX were rendered with accuracy and clarity, and the 454 surrounds provided a satisfying sense of spatial envelopment.

Clearly, I was impressed with the system's performance on movie soundtracks. But how 'bout plain old stereo? Music reproduction—the weak link in many a THX speaker system—is excellent with the System 450. The 451 LR satellites have a smooth, relaxed presentation that is easy on the ears and yet detailed enough to satisfy the requirements of most listeners. The 451 LR may lack the treble extension of the NHT VT-2 towers that we keep around our NY listening room as a reference, but they make up for it with a surprisingly silky-

sounding midrange that I found to be equally as enticing as the VT-2's top-end articulation. For speakers that were designed primarily with movie soundtrack reproduction in mind, let alone THX-certified movie soundtrack reproduction, Atlantic Technology's System 450 is impressively musical—little surprise given the achievements of the company's System 350.

Are you tired of wimpy, frou-frou speaker systems that don't exactly cut it when you drop an action movie into the player and sit back to watch stuff get damaged? If so, you owe it to yourself to check out Atlantic Technology's new-and-improved THX system. At \$5,050 (plus several hundred extra for the front and rear speaker stands) the System 450 is pricier than the company's System 350. When you listen to it, though,

**Atlantic Technology System 450 THX Speaker System** **\$5,050**

Atlantic Technology  
343 Vanderbilt Ave., Norwood, MA 02062  
(781) 762-6300  
Circle Reader Service No. 510  
Dealer Locator Code ATL

you'll know where that money went. On your first encounter with the System 450, prepare to abandon any preconceived notions that you may have about THX speakers not being able to hack it on music. This is one THX-certified switch-hitter that will successfully go to bat on anything you pitch at it.

