



Tip #11 Why our Low Resonance Tweeter (LRT™) is better

Atlantic uses a special tweeter in several of its custom-installed models, which makes these speakers better than most others.

Here's why: Most in-wall and in-ceiling speakers are 2-way (woofer-tweeter) designs. In-wall speakers are usually mounted well above eye level, for aesthetic reasons. Most people who choose in-walls don't want to see speakers in their room, so they mount them high up on the wall, above the sight line. That's great visually, but lousy acoustically. Ceiling mounted speakers are even worse: Invisible, but hardly an optimal acoustic situation!

So to counteract the effects of bad placement, many wall- and ceiling-mounted speakers have tweeters that can pivot or swivel, so they can be "aimed" at the listening area. Not a bad idea, but not a perfect solution either.

The problem is that the woofer in a conventional 2-way wall or ceiling speaker handles too much of the sound spectrum. The woofer in a normal 2-way speaker handles not only the bass, but it handles virtually all of the critical midrange and lower treble as well. And in the midrange/lower treble, woofers send out their sound like a flashlight beam—pretty much only straight ahead, but nothing side-to-side or up-and-down. So even if the tweeter can pivot down towards the listening area, it's not reproducing enough of the total sound

to make a real difference—the listener is still missing out on large portions of the sound.

What's needed is a speaker where the TWEETER, not the woofer, handles more of the sound spectrum, because tweeters spread the sound out over a very wide area, in all directions.

Simple, right? But typical tweeters are lazy. They don't like to work very hard, so most speaker designers take the easy way out and only use the tweeter for the very highest treble notes. (Engineers call this a "high crossover point.")

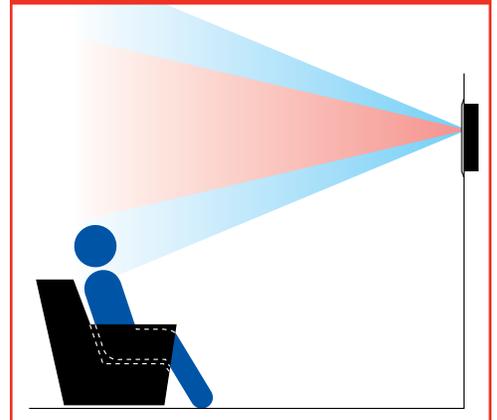
Atlantic Technology is different—and better. We've engineered a special tweeter that can work very hard (a "low crossover point"), and it can play most of the middle tones as well, thereby relieving the woofer of having to do what woofers can't do. Our LRT tweeter spreads out the midrange sound ("disperses" the sound) over a much wider angle than the woofer, so our IWCB Series and the ICTS-6 LCR speakers cover the entire listening area beautifully in both the midrange and treble. There's nothing else like them, and it completely solves the problem of getting truly good sound without resorting to unsophisticated tweeter pivots, expensive motorized mechanisms or complicated 3-way designs.

Figure 1



More than meets the eye: Atlantic's LRT has a special rear chamber that lets the tweeter respond lower, and it also functions as a large heat sink, for great power handling.

Figure 2



The RED area shows the midrange dispersion of conventional in-wall speakers. The BLUE area shows the wider midrange dispersion of Atlantic's LRT™-equipped speaker

Other Tech Tips:

Tip 7: Why the ICTS-6 LCR?

Tip 8: Why the IWCB?

Tip 9: Why sealed subwoofers?

Tip 10: 7.1 Dipole Placement