

Tip #13 What is "Boundary Compensation"?

Many of Atlantic's speakers have a switch on the back labeled "Boundary Compensation." In all honesty, we realize that many people probably have no idea whatsoever what a "Boundary" is and why the heck one should "Compensate" for it.

So with that in mind, let's talk about this in down-to-Earth terms and see if we can avoid the usual eye-glazingly boring technical explanation.

A boundary, in speaker terms, is any large nearby surface that affects the sound of a speaker. Examples of boundaries are walls, floors, television screens, the shelves and vertical dividers in an entertainment unit, etc. A speaker sounds different when it is placed in close proximity to these surfaces than it does when it is placed away from these surfaces.

Note that the effect of boundaries on a speaker's sound is not necessarily good or bad. It just needs to be taken into account, so you can be sure to get the sound you're expecting to get.

A nearby boundary tends to raise the lower midrange and bass balance of a speaker's sound. Why? Well, that's the technical part of the explanation that we're trying to avoid here, because you'll fall asleep. Acoustic engineers will start talking about 2π and 4π

steradians, half-space, full space, all kinds of things like that. We don't need to go there.

This is all you need to know: A speaker placed with its back to the wall will sound somewhat "thicker" or "heavier" than one on a three-foot stand out in the middle of the room. A subwoofer placed out in the middle of the room has less bass than the same sub placed right at the floor-wall intersection.

Here's a quick, convincing demo you can do yourself (see Fig 1): Speak normally to the person standing next to you. Have them listen to your voice. Sounds natural, just like you, right?

Now bring your hands up to either side of your mouth and speak again. Your voice sounds very different, because you've changed the "boundary effect" on your voice.

Therefore, Atlantic offers a Boundary Compensation control to adjust the speaker's sound based on its position in the room (see Fig 2). Our flat-screen speakers, for example, can be used either on Pedestal stands, away from room boundaries, or mounted right on the wall. The Boundary Compensation switch assures that Atlantic's speakers sound great in any location.

Figure 1

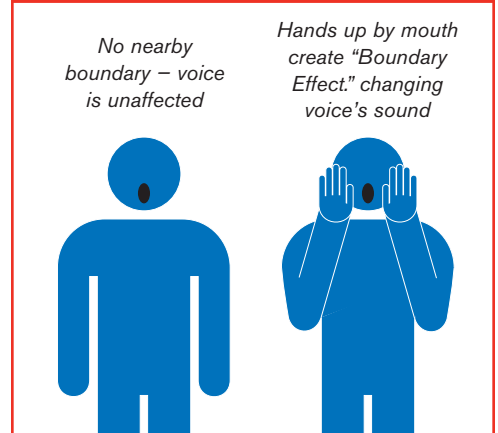
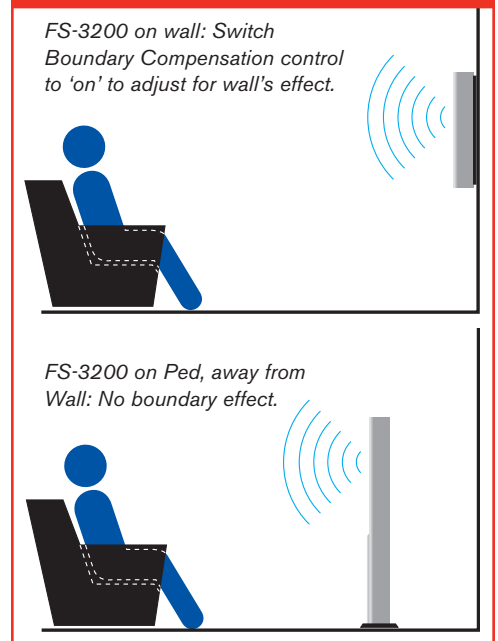


Figure 2



Other Tech Tips:

Tip 9: Why sealed subwoofers?

Tip 10: 7.1 Dipole Placement

Tip 11: Why Low Resonance Tweeter?

Tip 12: Why FS Series?