

Tip #26 Creating Good Room Acoustics

Nothing can make or break the sound of a home entertainment system more than room acoustics. You may have the very best equipment and you may have placed it all perfectly in your room (see Tech Tips 10 and 15), but if your listening room has poor acoustics, you're really facing an uphill battle.

Luckily, there are a lot of things you can do to improve even the worst rooms. Remember that old cliché, "Moderation in all things"? Well, that applies to room acoustics too. What you want to do is create a room that is neither too "live" nor too "dead." A "live" room is a room with a preponderance of hard, reflective surfaces. Lot of exposed glass windows, hardwood floor, things like that. The room sounds like your high school gymnasium—things seem to echo forever. (See figure 1)

The other extreme is an overly damped, "dead" room: thick-pile carpeting, heavy floor-to-ceiling draperies, and dense, over-stuffed furniture. A room like this sounds like you're trapped in a small coat closet packed with winter coats. Totally muffled. (See figure 2)

Try to create an acoustic environment with a balance of reflective and absorptive surfaces. Throw an area rug down on a hardwood floor or hang a tapestry on the wall to ameliorate overly live conditions.

One good general rule-of-thumb for home theater acoustics is what's known as the "dead-end, live-end" approach. This method of shaping room acoustics says that you should try to "deaden" the front half of the listening room to minimize early reflections, thus enhancing the intelligibility of the direct sound from the LCR speakers. One good way to do this is to place sound-deadening panels on the side walls to absorb the front speakers' first reflections. (See figure 3)

Conversely, try to keep the rear of the listening room relatively reflective, since you want the sound from the surround speakers to reflect around the rear of the room as much as possible to fill that area with ambient sound.

To sum up: If you can maintain a good balance of absorptive and reflective surfaces in the room and follow the "dead-end, live-end" rule as close as is practical, you have a good chance of having a good-sounding room, one that will work with you instead of against you.

Other Tech Tips:

Tip 22: Difference from 6200 to 6200e

Tip 23: The Devil's in the Details

Tip 24: How much power do I need?

Tip 25: Do it 'till it Hertz

Figure 1 Overly Live Room



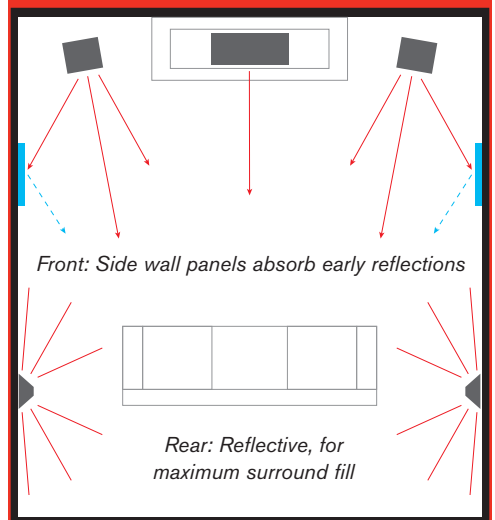
Too many reflective surfaces

Figure 2 Overly Damped "Dead" Room



Dead Room absorbs too much sound

Figure 3 The Live-End, Dead-End Approach



Front of room absorptive, rear reflective