Subject: Re:Not all pictures are worth a 1000 words - maybe too true!
Posted by Wayne Parham on Tue, 07 Dec 2004 07:52:57 GMT
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Speaker design and system setup are apples and oranges, in my opinion.Anechoic means "reflection-free," so if a speaker is designed to work best in an anechoic environment, it is designed to work best outdoors. That's really all there is to it. When people do things to improve acoustics inside a room somewhere, they generally improve it in a way that makes it more anechoic.If you're trying to setup your own system in your own room, then you naturally want to deal with the nuances of the room. Deal with the floors and the walls and the rugs and the furniture. That's why thinking about placement might be important. If the woofers are in positions that cancel, it won't matter if they provide perfect response in an anechoic environment. The problem is that they're in a situation that causes destructive interference, and nulls are the result.I've always liked corner placement for bass systems, and using treble frequency horns that match directivity at 90o. It prevents wall reflections from causing cancellation and it provides a good load and directivity for the bass. Corner placement doesn't necessarily prevent cancellation between left and right woofers, but that's usually not an issue unless the room is very small.I guess what I'm saying is that when I've placed woofers in the corners, I generally don't have big issues to deal with. Hollow crawlspaces are an exception, but other than that, corner placement goes a long way towards making the woofers work well in the room.Accurate bass measurement indoors is pretty tough. You can do a close microphone measurement of the bass, but you can't usually gate it like you can the mids and treble. It's not going to tell you what you want to know but it's probably as close as you can get. This kind of measurement doesn't tell you what is going on throughout the room, and how it is charged at different frequencies. You might try placing microphones in a grid spaced at 1 cubic foot points or something; Possibly do a myriad of averaged measurements instead. That's really what you'd have to do to get an accurate picture of room response.As for anechoic performance, as a speaker designer, I find it to be really important. Actually, the only thing I'm concerned about is making a design that is not tailored to my room or to any other specific room. I often design for specific placement, like corners. But I try real hard to do things that will make the speaker right in an anechoic environment. If a corner design, what I want is for the speaker to perform best in an environment that is solid on three sides forming the corner but completely open and reflection free on the other sides.You're right that it's for comparison purposes, but more importantly, it is for making a baseline so that the speaker isn't tilted in response. If a guy uses one of my speakers in a room that is highly reflective, he may have a little more mids and treble. He could then treat his room or EQ the system in some way. Or if his room is shaped so that it really peaks between 50Hz and 100Hz, he can deal with that. But if I designed my speakers specifically to be flat in my room instead of an anechoic baseline, then when other people put my speakers in their rooms, they'd have to equalize for my room as well as for their own room.I assume your comments are intended for system setup but I thought I'd mention this to clarify.