Subject: Distance to furniture
Posted by Grangier on Tue, 18 Nov 2008 20:07:46 GMT
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I have already done the requisite room LEDE wall treatments. Live end is behind my listening chair and dead end is in front behind speakers. Side walls are diffuse with built in bookshelves on one side and a bar area and opening into the formal dining room on the other. The floor is carpeted.My speakers are pulled back away from the wall a few feet and are angled in towards the listener.How 'sterile' does the furniture between the speakers and the listener have to be? Can I have a coffee table or will that screw up the imaging? How about the stereo rack. It is between the speakers far off axis. Will that matter?

Subject: Re: Distance to furniture
Posted by Wayne Parham on Wed, 31 Dec 2008 22:04:13 GMT
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Any surface that is greater than about a wavelength across will act as a reflector. Coffee tables do tend to reflect upper midrange and the overtone region pretty strongly, and you can see their influence in measurements. Some can be distracting, sort of like ceiling slap.As for the edges of equipment like stereo racks, tables and chairs, I personally don't notice them. They may actually improve diffusion especially when placed far enough away, out in the rooom or against distant walls. I don't think I'd want them near the speakers in line of sight though.There was a time when I was making the edge of all my speakers rounded. I also suggested that all hard edged furniture be placed far from speakers. At the time, it seemed to me that limiting edge diffraction would be a good thing to do. Even though it was not one of the biggest acoustic offenders, in my opinion, it was still worth taking steps to reduce. I thought it made the cabinets look cool too, in a Roger Dean sort of way.The thing is, rounded corners are very hard to cover with veneer. Painted surfaces are no problem, but veneer can crack when you try to bend it around a corner. My cabinetmakers always threw fits. I was stubborn for a while, but agreed to build a pair of identical speakers, one with rounded corners and one without. We let people listen and nobody could tell the difference, even outdoors. So I reluctantly agreed to abandon the rounded edges from my speakers.I have noticed this has become an issue with some audiophiles. I don't believe edge diffraction can be detected in a blind test. I think sharp edges inside of horns are a problem because they cause improper terminations and the internal reflections that result from them. But cabinet edge diffraction is probably not audible.I would expect the same can be said of furniture outside the speaker cabinet. If it's directly in front of the speaker, that might be a problem. But if it's way off axis or far away, I don't think it's a problem. Might even be good to increase the illusion of ambience.Large hard surfaces should be considered reflectors, and should probably not be placed in the listening area where possible. Sharp edges are less a problem, but also should be kept reasonably far away. I would be more concerned about surface relection from a large piece of furniture like a coffee table than I would about edge diffraction from it.

Subject: Re: Distance to furniture
Posted by jimdgoulding on Mon, 12 Oct 2009 00:47:03 GMT
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This is an old query and response but in the case it is sometimes referenced I thought I would add my 2 pence. Getting the speakers out from nearby surfaces is a good thing. Four times their depth and three times their width or along those lines from walls will give them room to breathe and open up and out. In recordings that contain information about the locale of the recording be it a club or a hall, even artificially ambient recordings like electronic music, you want your system to reproduce that in addition to the shape and separation of instruments. If reflection is folding in and being added to what you hear at your seat too soon, all that is compromised. Bass can be elevated, also, particularly by nearness to corners. I think having hard objects like a coffee table between you and the plane of your speakers is a no go. The waveforms radiated by your speaker drivers should have an open path to your seat.

In the case of flat baffle or nearly flat baffle conventional box speakers, diffraction or the reradiation of waveforms by the cabinet is not only audible but measurable. What is summing in can be measured in both the time and frequency domains. It can cause an audible elevation to what is produced in the lower bandpass of tweeters and what is arriving late is out of time and phase. Correcting for it will preserve frequency linearity and the ability of our speakers to image correctly and more palpably. You can see measures being taken for its reduction in modern speaker design such as with Gallo, Theil, and Vandersteen speakers and more.

A good thing to remember . . waveforms contain all the information your system as best it is able to extract from your bits and grooves is working to deliver. Best we have regard for them.

Subject: Re: Distance to furniture
Posted by DaBase on Sun, 07 Mar 2010 18:42:06 GMT
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I am going to be so confused when we move. How much would it cost to have someone come in and setup the sound system in our new home? I'm not a very technical person and I think I may run into trouble if I try to do it myself.

Subject: Sound system installation and room treatments
Posted by Wayne Parham on Sun, 07 Mar 2010 19:24:08 GMT
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Be careful when choosing contractors to build a sound room and/or treat an existing room and setup. Experience and ability varies a great deal, but of course, they'll all represent themselves as experts.

I would strongly suggest that you take time and learn acoustics and setup your own room. This allows you to be sure you are getting what you paid for, because you decide what treatments to install and where to put them. You can also do it incrementally, making improvements as you can

afford them.

Study room modes and the reverberent field, for starters. These come into play at different frequency ranges, room modes at bass frequencies and the reverberent field at higher frequencies. You'll want to address each of these differently.

Reverberent field
Room modes

Subject: Re: Sound system installation and room treatments
Posted by candoon on Thu, 01 Apr 2010 05:37:28 GMT
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Wayne Parham wrote on Sun, 07 March 2010 13:24
Experience and ability varies a great deal, but of course, they'll all represent themselves as experts.

Is there any chance you know of a cheat sheet of sorts for certain questions to ask when trying to choose between the good and the bad? I ran into this for a kitchen remodel (not the same, but you know) and it cost a ton to fix. We are thinking of laying some lines between the two stories in our home and I would rather not do something that a pro could do better, so I am in the same boat here.

Subject: Re: Sound system installation and room treatments
Posted by Wayne Parham on Thu, 01 Apr 2010 14:36:30 GMT
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The problem is, if you know enough to know what to ask, you know enough to start performing the treatments yourself. But then again, I can certainly understand not having the time and wanting to hire a contractor. As an example, I can work on cars, but that doesn't keep me from taking mine to the shop. But I can instantly tell when the shop is floundering or bluffing, and that helps me find and maintain relationships with good mechanics.

I suggest looking through the links in my last post and reading some of the material here and elsewhere. In my opinion, you should try and understand acoustics well enough to know the basics of what needs to be done. Otherwise, you just can't tell the snake-oil salesmen from those with a real understanding of room acoustics.
