
Subject: Room acoustics newbie

Posted by [Soundbuzz](#) on Mon, 02 Aug 2010 04:23:06 GMT

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Hi I'm setting up a home theater room and it's only until recently did I realize that items can be moved and upholstery added to improve the sound. I currently have a love-seat sofa in the middle of the room and a solid-wood table at the back, which is facing the tv and speakers. The speakers are placed at both sides of the tv. I also have two small speakers that are placed high up on opposite sides of the walls.

I have recently added curtains to my windows and a rug in front of the tv, but I still find that the bass sounds a little flat. I would like it to bounce off my walls, but how do I achieve that? Does the problem stem from the fact that my walls are hollow? So would soundproofing the room do the trick? I wouldn't want foam mats on the walls though so I thought maybe I could place a couple of rugs I have on the walls. Will that work?

Subject: Re: Room acoustics newbie

Posted by [Adveser](#) on Mon, 02 Aug 2010 13:17:27 GMT

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Where to begin?

*Is the coffee table in front of the sofa? If so, higher frequency sound is bouncing off of it, so get a nice thick cloth to go on top of it.

*Are the speakers toed into the viewer? If not, toe them in where the speakers intersect anywhere from a foot behind you or in front of you. It's a matter of opinion exactly where the intersect takes place at sounding best. While you are there make sure the tweeter is at ear level. I consider that critically important above almost anything.

*You mentioned curtains, if they are the good sound and light proof curtains made for theater rooms, then you are in good shape. Making sure sound can't get to windows is important because glass reflects and refracts sound more than anything. glass and windows are a huge problem that should be dealt with accordingly.

*You don't want bass bouncing off the walls. Anything below the (can't remember the name - Schroder frequency? you know, around 240-280hz) is going to resonate, cause phase cancellation and produce standing waves that lead to "one note bass." The bass should really be filling the room. People keep claiming bass is "omni-directional" which I think is bull****. That said, what do you mean by flat? Like it is coming from one part of the room (the source) only? Typically people do not give speakers the foot or two (!) they need completely off the walls, so that may be an issue. This is probably not a big deal unless the speakers are getting lower than 100hz or so.

*I don't think the hollow walls make any difference at all other than possibly becoming as resonant chamber for sound to get trapped in, which should be inaudible really.

*Yes, carpet on the walls works. Every band known to man at some point trolled around town looking for old carpet and mattresses to soundproof and create dry rooms for recording demos. It works.

The key is to create a good balance of things that absorb sound and things that sound can bounce off. That is what creates great acoustics. Measure the room and make sure that when the dimensions are divided by each other that you get an irrational number, like a ratio of 1 to 2.65 or whatever.

Look around online. There are some great guides I've read regarding more specific things like speaker placement that might be useful.

For room treatments all I do is cover up the windows and nail a heavy blanket to the back wall myself, assuming there is carpet in there and the dimensions allow no resonate bass frequencies. That is a problem that can be dealt with a lot of ways, but we'll save that for another time.

Subject: Re: Room acoustics newbie
Posted by [JiminyCricket](#) on Mon, 02 Aug 2010 13:23:34 GMT
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I heard you should cover around a third of your wall space with something like rugs but you also need to think about other things. The size of your windows and the positioning of furniture in your room for instance.

Subject: Re: Room acoustics newbie
Posted by [Soundbuzz](#) on Tue, 03 Aug 2010 08:27:36 GMT
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Oh wow thanks for the taking the time to reply! I could really use a few tips like that.

In fact, I've already bought some heavier 'studio' curtains for the windows. They're dark red and ugly though I might have to do something about them. I'm all about aesthetics. I've also gotten my fiance to help me put up some carpets on the walls. So far I've done about half the room already and I'm already noticing the difference. Wow!

Aha! I'll try the foot or two space behind the speakers. What I meant by flat was that there simply isn't enough bass oomph! lol How do I explain that?! But I just read on one of the other threads that for a home theater I must get 2 to four subs! One at the front, one at the back is what I'm thinking right now. I only have one currently.

And nope the bigger wooden table is at the back of the sofa but I also have a coffee table in front of the sofa. I've already thought of placing a table cloth on top of that. I'm going to have to do some trial and error placements of my furniture, and see (or hear) what sounds best.

This site has helped me a lot on understanding how sound travels and what could effect it. Thanks so much and fingers crossed!

Subject: Re: Room acoustics newbie
Posted by [Adveser](#) on Tue, 03 Aug 2010 22:57:58 GMT
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Your welcome. I like discussing audio, so it's really my pleasure.

Sounds like everything is off to a good start, so keep up the good work!

Unless you are using 3-way speakers with a woofer that put out "full range" bass, the space between the speakers and the walls isn't that important, so no need to go that far unless this is the case. It is usually good to limit bass building up behind the speakers. That is to say the closer a 3-way speaker is to the wall the more bass will be present, but it isn't the good kind of clean bass from the speakers, so I always move the speakers away from the walls.

There are far more technical and scientific descriptions online that can tell you what is going on better, so look them up if you want more info.

It seems like the Subwoofer(s) are either underpowered or the crossover (you know, not a physical crossover network, but the frequencies they are putting out) from the main speakers to the subwoofer isn't covering everything. If you tell me some of the specs of the main speakers and the subwoofer, we can go from there.

I was going to say in my last post. If you have the facilities, like a laptop and a microphone, it wouldn't be a bad idea to record the sound and take a look at the frequencies. If you do go that far, we can definitely sort out any of the sound problems and correct them.

Good luck!

Subject: Re: Room acoustics newbie
Posted by [Frontrowticket](#) on Mon, 09 Aug 2010 05:01:26 GMT
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Great thread and really useful for people like me who are dabbling for the first time. Sound like I need to think about what's in my designated theater room as much as the space available.

Subject: Re: Room acoustics newbie
Posted by [Adveser](#) on Mon, 09 Aug 2010 10:29:06 GMT
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And I completely forgot about this:

Subject: Re: Room acoustics newbie

Posted by [addictedtosound](#) on Sun, 29 Aug 2010 05:36:13 GMT

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When trying to get the acoustics right in a room is it better to have a carpet or a laminate type flooring? I'm always under the impression that carpets "soak" up sound.

Subject: Re: Room acoustics newbie

Posted by [Adveser](#) on Sun, 29 Aug 2010 06:56:23 GMT

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the "less flat" the better. Therefore carpet is the best.

Subject: Re: Room acoustics newbie

Posted by [jazzlover](#) on Mon, 20 Sep 2010 15:17:22 GMT

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Cool! I just copy-pasted the tips. Thanks for sharing!

I'm a newbie in this site I'm also a newbie to sounds. But I'll be moving to my new home in a month or two (depending on how fast we fix the new home). One of the things I'm planning for is the sound system in the living room.

Subject: Re: Room acoustics newbie

Posted by [jazzlover](#) on Thu, 07 Oct 2010 13:06:31 GMT

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Carpet on the walls and floors are used in studios I've been to. In fact one uses tray eggs, the type made of paper. It's not visually appealing but does a good job of "trapping" sound waves.
