
Subject: Two questions on how to construct a sound box

Posted by [3dfreak](#) on Wed, 06 Oct 2010 13:02:51 GMT

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1. Do you choose a speaker size and ram it into a room? or do you choose it based on the size of the room?

2. Will the material used for the construction of the speaker box matter? I mean, for as long as it's wood, will any kind of wood do based on availability?

Subject: Re: Two questions on how to construct a sound box

Posted by [Wayne Parham](#) on Wed, 06 Oct 2010 23:33:46 GMT

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Well, the materials for building the box matter some, sure, but I think even more important is the bracing. You just want a dead box, one that doesn't vibrate and make sympathetic secondary vibrations on its own. I usually use MDF for smaller cabinets that will be used indoors, unlikely to be exposed to moisture. I use baltic birch for larger cabinets, ones that will be used in more humid environments or outdoors, and spekaers that will be moved a lot.

As for sizing the speaker to the room, I think that's as much a matter of aesthetics as it is anything else. Then again, very small speakers tend to have sound sources tightly spaced, so you don't have to be as far from them for them to integrate. And then again again, if the speaker is designed to provide a nice forward lobe, it probably doesn't need much room to integrate. The two things tend to go together, because its all a matter of point sources verses arrays. Different systems (points sources, arrays, monopoles, dipoles, etc.) radiate differently, and interact with boundary (wall reflections) differently too.

Subject: Re: Two questions on how to construct a sound box

Posted by [3dfreak](#) on Thu, 07 Oct 2010 12:56:08 GMT

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Thanks Wayne.

But kindly confirm if I get your reply right ...

Speaker size - aesthetics plus balance of point sources and array considerations

Material for cabinet matters, but not as much as the bracing. We need to ensure it's a "dead box." I find the term creepy but I get your point

Subject: Re: Two questions on how to construct a sound box
Posted by [Wayne Parham](#) on Thu, 07 Oct 2010 13:57:16 GMT
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Yes, that's basically it. My point about box size was really it isn't so much about the size that matters with respect to room interaction, it's the directivity characteristics that count. What's important is the shape, size and directions of the lobes and nulls.

Subject: Re: Two questions on how to construct a sound box
Posted by [3dfreak](#) on Fri, 08 Oct 2010 10:23:49 GMT
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Now I get it. It's the directivity that counts more than size. I now understand why there's so much discussion here about monopoles, dipoles, carpets on the floors and walls (for studios), bouncing surfaces, etc.

I need to speed up my reading on these matters. It appears I have underestimated their importance.

Subject: Re: Two questions on how to construct a sound box
Posted by [Danny](#) on Mon, 18 Oct 2010 10:07:37 GMT
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I would have to say that I am pretty ignorant about a lot of this stuff, too. There is more to consider than you would think! Just starting with the type of wood alone, is something I didn't even think about!