
Subject: speaker location and type

Posted by [Gregw](#) on Tue, 18 Dec 2012 12:50:48 GMT

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Hello forum, my first post. I'm building a new house for myself, doing 90% of the work myself. Getting ready to hang drywall and got worried about speaker placement for wire runs. Attached is a schematic of my living room and I'm trying to figure out the optimum speaker locations. I am interested in the sound throughout the whole area not just one listening seat and not too interested in surround sound for movies, but I have furniture in the way no matter where speakers go. I was thinking about corner speakers up in the peak of the vaulted ceiling facing down, I could even build these into the structure itself. Ideas, suggestions? All opinions welcome, Thanks!

File Attachments

1) [speaker placement.pdf](#), downloaded 420 times

Subject: Re: speaker location and type

Posted by [Wayne Parham](#) on Tue, 18 Dec 2012 15:33:38 GMT

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Speaker placement depends largely on the type of speaker you choose. Some need to be in free space, not near walls. Others work better when placed close to walls. Some are designed to be placed in corners. Some should be pointed at the listening area, others should not be. However, one thing that is common to all is they should be placed approximately at ear level, never overhead. Surrounds can be placed slightly overhead, but none should be at ceiling level. That is an unnatural sound source location, because sounds rarely come at you from above (except for birds and airplanes). For background music like in an elevator or something, speakers are sometimes placed overhead, mostly for convenience. But it is not good for home theater or hifi.

My expertise is in speakers that provide uniform directivity, meaning they sound the same in all areas of the room. Those should generally be placed near room boundaries and should be pointed so that their axes cross in front of the listeners. They also should be augmented with two to four subwoofers, distributed through the room. Two should flank the main speakers, and sometimes one or two more should be placed further away. This multisub approach works well for all speaker types, because it smoothes room modes.

High-Fidelity Uniform-Directivity Loudspeakers

Speaker placement and wavefront launch

Room modes, multisubs and flanking subs

Subject: Re: speaker location and type

Posted by [Gregw](#) on Tue, 18 Dec 2012 15:54:31 GMT

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Gotcha, ceiling idea, not good. From what you said, I'm then thinking corner speakers on the

stereo cabinet wall, set up at about 5', each with a sub-woofer below and another across the room in the coat alcove. Would that make sense?

Also would it make any sense to use your kits and build speakers right into the corner wall structure in lieu of a freestanding cabinet?

Thanks for your help.

Subject: Re: speaker location and type

Posted by [Wayne Parham](#) on Tue, 18 Dec 2012 17:13:36 GMT

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Speakers in corners don't need flanking subs, but they do still benefit from more distant distributed subs. I don't think I'd put a sub immediately below the corner speakers, because then you would have two bass sound sources in the corners, which is a waste. You want to spread them around. Best approach is probably to put the subs in the corners opposite the mains or at the adjacent wall midpoints. If neither of those places is convenient, really any two other spots will work, just don't put them right below the mains. The woofers in the mains will provide the bass sources there.

Soffit-mounted speakers are a great idea, because they remove self-interference from the wall they are mounted in. This also largely reduces the need for flanking subs. It's the same thing for constant directivity cornerhorns - They don't really need flanking subs because they don't suffer self-interference from nearest boundaries. So that gives a little more flexibility in sub placement, and is just a better arrangement all-around. Not everyone has these options, but for those that do, it is the best way to go.

I prefer constant directivity cornerhorns to soffit-mounted speakers simply because cornerhorns remove self-interference from both adjacent walls, whereas soffit mounting only removes self-interference from the wall that the speakers are recessed into. The nearest side wall still presents a problem. Soffit mounting also doesn't usually lend itself to the preferred crossed-axes orientation, because the wall angle and the baffle angle are so different. So for these reasons, I would prefer a constant directivity cornerhorn to an in-wall mounted speaker. You can permanently mount the cornerhorns, if you wish, making them something like soffit mounted speakers, but there probably is little benefit in doing so.

Subject: Re: speaker location and type

Posted by [GraceGeorge](#) on Wed, 02 Apr 2014 11:17:15 GMT

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As far as I'm quite aware of this topic do anyone can explain me about the topic deeply so that somewhat i can come to know.
