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Subject: Cornerhorns

Posted by [Frode](#) on Wed, 31 Oct 2001 09:43:03 GMT

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Hi Wayne! You have said that the response for my Four Pi 2226H are down 6dB at approx. 50Hz. Where is the -6dB point for the Seven Pi cornerhorn? Today I've made a "footprint model" of the Seven Pi Pro, and I do have room for them. However, after my experiments with the Four Pi in the corners, I'm not sure that I will like the imaging of the cornerhorns. By imaging I mean that the instruments/voices comes from different spots in front of you. My room is L-shaped, and my listening position is not exactly in the middle of the two corners I intend to use. Is it a good solution to use the Seven Pi as a "sub" up to maybe 60-80Hz(?), combined with a One, Two or Three Pi (maybe a standmounted coax)? TIA Frode

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Subject: Re: Cornerhorns

Posted by [Wayne Parham](#) on Wed, 31 Oct 2001 10:38:21 GMT

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Both the four Pi and the seven Pi loudspeakers are slightly overdamped, giving gradual rolloff at LF. In freespace, output at 50Hz is 6dB less than 100Hz. But small to medium sized rooms tend to boost bass. This is even more pronounced when the speaker is placed in a corner. Every room is different, so you cannot say exactly how much boost you'll get but in general, this response curve ensures smoother bass indoors than a max flat alignment.

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Subject: Re: Cornerhorns

Posted by [Frode](#) on Wed, 31 Oct 2001 12:26:11 GMT

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Thanks Wayne! I'm sure cornerhorns will give me plenty of bass, but you didn't answer my last question. Is it possible use the cornerhorn as a "sub" with two "satelites" where I normally have my speakers? If so, how high would you recommend to use the 2226H? How well does the One, Two and Three Pi perform from this XO point and up, compared to my Four Pi? TIA Frode PS! Please mail me the Seven Pi plans!

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Subject: Re: Cornerhorns

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Posted by [Wayne Parham](#) on Wed, 31 Oct 2001 22:40:14 GMT

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I suppose you could do that, but I've never been a fan of the idea of a single sub flanked by satellites. I wouldn't try to cover the whole bass range with a single woofer. Use at least two. The

balance throughout the room and the large "sweet spot" it provides. They have a natural tendency to balance the stereo image over a fairly wide area in the center of the room. This is due to their uniform directivity and their 45° toe-in, causing the forward axis to cross. All these

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Subject: Re: Cornerhorns

Posted by [Rider](#) on Thu, 01 Nov 2001 15:46:55 GMT

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Hi Frode. I have the Pi7 Corner horns and I wouldn't use a corner horn as a sub if it's being used for a surround system. From what I know of surround sound the bass is not supposed to be directional. A rumble of a tank or herd of horses rumbles, but is supposed to give you the feeling you are IN the picture. One cornerhorn would be too identifiable for where the rumble was coming from. As per Wayne's explanations the horn is the walls, ceiling, and floor with the corner horns. I expect with only one horn one side of the room would be loud and the other sort of void. Would this be true Wayne? Pi 7's make very serious amounts of bass / treble with absolutely no effort at all so from a technical point of view you would get a lot of sound. Listening to these speakers last night (not even at high volume) it came to mind that the bass was more like atmospheric pressure changing than listening to music. If you've ever heard them, you'll understand. Good luck with putting your system together. Grant Marshall.

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Subject: Re: Cornerhorns

Posted by [Frode](#) on Thu, 01 Nov 2001 18:38:26 GMT

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Hi again! I've just finished moving my Four Pi around in my corners for testing. I did an experiment and pointed them into corners and the result was magic! The bass becomes much more full and natural, it even sounds deeper and more controlled. Forget the satellites - I can't wait to build my seven Pi's! Regards Frode

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Subject: Re: Cornerhorns

Posted by [Wayne Parham](#) on Wed, 07 Nov 2001 03:42:03 GMT

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The lower you crossover a subwoofer, the harder it is to localize. You still have distance as a audio clue, but you don't really have ear filtering clues because they require high frequency information. At midrange frequencies and higher, your outer ear causes reflections that produce notch filtering depending on the angle between you and the sound source. That clue isn't there at low frequencies, making subwoofer localization difficult. I still prefer to have subwoofers placed physically close to mains, and I prefer symmetry. I wouldn't ever use a single sub, not so much because of localization but because there is no averaging of room modes. Better to use at least two woofers. The best thing for smooth bass response is averaging, which requires multiple woofers. Keeping the woofers within 1/4 wavelength of the mains at crossover and through their overlapping frequency range is important to prevent a cancellation notch, but having subs spaced further than 1/4 wavelength from each other (and from walls) helps to smooth out room modes.

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**Subject: Re: Cornerhorns**

Posted by [Wayne Parham](#) on Wed, 07 Nov 2001 03:44:19 GMT

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Please keep us posted with your progress!

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