Subject: Critical 7pi pro cornerhorn dimensions
Posted by swett on Wed, 15 Nov 2006 04:38:54 GMT
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What are the criticall dimensions of the cornerhorns?I had a similar question a while ago, but now I actually have corners available I can use, and I still haven't built the 4Pi's, so now I'm ready to build 7Pi's.Unfortunately, I still have a height restriction due to a windowsill(and WAF as well). Ideally around 26" would be good, but 28" is doable as well.I'd like to make the cabinet shorter and deeper. Obviously the box volume and port need to be kept the same. However, I don't know about the importance of the height and the rear volume. If that can't be changed, It seems I'm probably out of luck and I'd have to build the 4Pi's. I'd also like to build a cabinet thats trapezoidal, so its 24" at the front to match the midhorn, but I realize that may negatively effect the mouth of the horn. If you have no idea how all these changes will work, I'm willing to build a woofer cabinet and see how it works out and make some simple measurements with a RS SPL meter.

Subject: Re: Critical 7pi pro cornerhorn dimensions
Posted by Wayne Parham on Wed, 15 Nov 2006 14:15:20 GMT
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You could probably get away with some mods, but the distance to the corner sets the frequency of the first null.

Subject: Re: Critical 7pi pro cornerhorn dimensions
Posted by swett on Wed, 15 Nov 2006 16:58:06 GMT
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I have no intention of changing the distance to the corner. Is there a paper on the design theory behind your Pi cornerhorns?

Subject: Re: Critical 7pi pro cornerhorn dimensions
Posted by Wayne Parham on Wed, 15 Nov 2006 18:28:00 GMT
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documents I've written on crossovers and box alignments and what not. In a nutshell, the seven

The bass bin works best when the alignment is slightly overdamped, which has rolloff that is conjugate of the boost from corner loading, making an overall flat response curve. Not only does the radiation angle result in 9dB DI boost but also prevents early reflections since all sounds eminate from the apex of the corner. This is especially attractive when the MF and HF sections are also designed to have a 90° pattern, matching the room wall angle and reducing reflections in the MF and HF bands.

Subject: Re: Critical 7pi pro cornerhorn dimensions
Posted by swett on Wed, 15 Nov 2006 22:08:00 GMT
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Thanks Wayne, thats a good summary of what I'd previously read on this board.I need to take another read through all your writings, as well as some of the other PDFs on your website. I was just reading one of the JBL AES docs on your website today.
