Subject: In the Corner Horns?
Posted by Garlando on Tue, 06 Jan 2004 21:53:36 GMT
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Hi Guys! (Hey it's me Garland)I was wondering what you all knew about any horns designed for loading the corners of a room in the vertical direction as opposed to between the wall and the floor as I believe(forgive me if I'm wrong) Wayne's Pi 7s do? I'd love to try some true bass horns but space just does not allow for the free wall/floor space. Any ideas?Thanks and I hope to see a few of youse guys at the N.E.Valve Bottlehead, Tube, Hi E., whatever, Beef Blast at Steve Culton's on the 24th.G.

Subject: Re: In the Corner Horns?
Posted by Adrian Mack on Wed, 07 Jan 2004 07:51:06 GMT
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Hey GarlandWhat do you mean by "in the vertical direction"?

Subject: Room corner characteristics
Posted by Wayne Parham on Wed, 07 Jan 2004 11:32:06 GMT
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A cornerhorn is loaded from the apex of the floor/wall corner junction, but at very low frequencies (below 35Hz for 8 foot ceilings), the ceiling becomes a loading boundary too. Above 35Hz, the apex expansion is eighth-space but below 35Hz is it greater than eighth-space. There's actually a sort of transition region between 35Hz and 70Hz where it is increasing above eighth-space, so for most of the bass region, it is greater than eighth-space and steadily increasing as frequency drops.Another way to look at it is that the corner forms a three-sided pyramid-shaped conical horn having an expansion equivalent to a four-sided horn with 70o wall angles. It's sort of like a giant 70o CD horn. But below 35Hz, the wavelength is long enough that the entire height of the wall/corner junction comes into play, not just the expansion from the floor apex. At very low frequencies the launch corner isn't a three-sided pyramid but rather it is a four sided boundary having horizontal flare of 90o and parallel vertical sides. This is a different spatial orientation than the corner apex triangular pyramid, and has a different expansion rate. It acts like a tightly constrained space with increasing directivity as frequency drops.To illustrate, see the following charts:

Subject: Re: In the Corner Horns?
Posted by Garlando on Wed, 07 Jan 2004 17:05:25 GMT

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I mean with the mouth of the horn opening up into the corner formed by the two walls and the ceiling as opposed to opening to the rear or side and loading primarily the space defined by the two walls.G.

Subject: So Wayne, ...
Posted by Garlando on Wed, 07 Jan 2004 18:36:27 GMT
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I think your saying that in a smaller room with open wall constrictions a corner horn of any configuration has too many problems to deal with in a coherant manner and from that assumption I should stick with direct radiators?G.

Subject: Re: So Wayne, ...
Posted by Wayne Parham on Wed, 07 Jan 2004 20:03:37 GMT
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placement of woofers is ideal, and that the dispersion characteristics of radial vocal and high-frequency horns allow them to be placed in corners as well. You don't get floor bounce from a horn that has very limited vertical dispersion, and if its horizontal flare is 90o then it matches the horizontal pattern of the cornerhorn's woofer. So I like using room corners and I always try to take

can't think of a single time when they weren't the best implementation available to me in homes having listening rooms with appropriate corners.There are problem rooms, like those with raised hardwood floors or those with closet spaces or halls that develop annoying resonances. But those conditions color sound enough that you can even hear it when you're just talking. They have that "singing in the shower" quality, a resonant chamber that is obviously boomy in the midbass and lower vocal range. These will cause problems for any sound system installation, and

cornerhorns. They're great for most rooms of 500 to 2000 square feet, as long the corners are right.

Subject: Re: In the Corner Horns?
Posted by JLapaire on Thu, 08 Jan 2004 12:27:37 GMT
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There was a fella that posted a corner system a while back - it used a 15 in a sort of a cube with the lower back corner cut off to form a baffle surface. It looked like a cube stuck in the corner, maybe a couple of inches out. I emailed him back when I remembered who he was, but got no reply. Anyway, if it works on the floor/wall boundary, it should work on the ceiling/wall boundary too, especially if you're not talking huge power. Terry Caine ("Bigger is Better" project) talks about liking the ceiling because it hasn't got furniture in the way.My own experience with multiple small ceiling-corner speakers at Storrowton Tavern is all positive. Very nice bass with little effort - just BR boxes stuffed up into the corners with 1354s in them. Horn reinforcement of the bass is obvious. It's out of your way, but if you come over to 91 instead of taking 84 to Steve's we could thrash them for a bit before the lunch rush.John

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Subject: Re: In the Corner Horns?
Posted by Wayne Parham on Thu, 08 Jan 2004 14:02:26 GMT
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You're right about the ceiling. I always found the lack of furniture to be a distinct advantage too, and it is an interesting mounting position. There are a couple of disadvantages in that the speakers are usually further from ear level and the ceiling is not usually as solid as the floor. Still, the boundary conditions are right and it is a good option; It seems to me to be especially well suited for places like diners, bistros or other small to medium sized gathering rooms that require conversation level music.
