Subject: Cornerhorns, revisited
Posted by Wayne Parham on Tue, 13 May 2003 05:32:45 GMT
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Some would rather see a complicated labyrinth between the woofer and the corner - This somehow makes them feel better about calling the speaker a "horn." The fact is that the cabinet of a bass cornerhorn is its throat - nothing more. The room itself forms most of the horn's flare.If you want a throat flare other than conical, you can fold it in a box that exits near the corner. Or you can simply use the conical flare that is built-in as the room's boundaries, themselves. Both are good solutions, actually. Both have their strengths and weaknesses. But my focus here today is on the simplest solution, which is to use the apex of a room's corner and its expansion as a large horn. It's the largest horn that can "fit" into a room. The post called "Cornerhorn Answers"

owned other brands of cornerhorns as well. I've always been extremely pleased with

Subject: Re: Cornerhorns, revisited
Posted by Garland on Tue, 13 May 2003 09:43:06 GMT
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Hi Wayne,Of course, I'd love to have a pair of your cornerhorns but with my smallish listening room I just don't have the free wall space... maybe a new house is in order...! but anyway, I was wondering about the stability of the walls affecting the quality of sound reproduction with cornerhorns. I recall you warning of performance problems with suspended wood floor joists being too resilient and creating "drum-like" effects. Does the stiffness of walls affect the sound with cornerhorns? Just curious and thanks!Garland

Subject: Re: Cornerhorns, revisited
Posted by DRC on Tue, 13 May 2003 16:38:14 GMT
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As I contemplate taking my midrange driver down 6dB to match the BR-loaded woofer, I must admit I'm think about what a cornerhorn implementation would do for the 1620's efficiency, leaving the 2123 facing forward, as was done in the 18" cornerhorn Bill posted pix of a few weeks or a month back.How many dB would that buy me back? As a SET guy, I find throwing away efficiency painful in the extreme! Keep your ears and your mind open.

Subject: Cornerhorn comparison with direct radiators
Posted by Wayne Parham on Tue, 13 May 2003 17:31:46 GMT
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wall and on the floor. It will generate 6dB more output than the same direct radiator placed near a

will generate 9dB more than a direct radiator in freespace.

Subject: Re: Cornerhorn comparison with direct radiators
Posted by DRC on Tue, 13 May 2003 17:41:46 GMT
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Thanks. You would think I could remember that, eh?Dang, there's the six dB I'm looking for. Would only necessitate new cabs. Arghhh!I've got both going, (the one still driving the woofer FR), and it sounds great. STEREO - what a concept! ;-)The AN M2 preamp sounds fabulous with these speaks, for anyone who cares. Keep your ears and your mind open.

Subject: Re: Cornerhorns, revisited
Posted by Wayne Parham on Wed, 14 May 2003 08:36:06 GMT
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Certainly the configuration of the home and its type and quality of construction are important factors. But no matter what kind of speakers you have, if the acoustics are bad, then you have a problem. I suppose some argument can be made that a highly directional device that's pointed away from problematic areas and reflective surfaces will help. But a home is usually small enough that the reverberent field becomes charged pretty easily, so that removes the validity of the argument to some degree.Beyond that, I've found a few pretty basic things to watch out for. You hit the biggest one - Raised hardwood floors. If a home has a crawlspace underneath, you probably can't make it sound good without some pretty significant treatments. If you can walk across the wood floors and it sounds like a drum head, forget about it. But homes with concrete slabs and framed drywall construction are pretty good, all-in-all.The other gotcha is rooms that are solid rock. Things like basements are problematic, because they are soooo reflective. I've seen this construction in flats in Europe too, and I've been told that rock is everywhere in home construction in India. I expect that a person would need a lot of absorbent material on the boundary surfaces to get that right. I've not had any experience with them other than setting up temporary sound systems in gymnasiums and small stereos in European homes. Neither of these kinds of cases called for a permanent high-quality solution, so I did no real investigation and can't draw reasonable conclusions. But I suspect that wall-to-wall carpets or a thick area rug that extends nearly wall to wall would be helpful, perhaps combined with ceiling treatments as well.

Then the dead-end/live-end approach for the walls would probably be appropriate too.But back to the North American homes, if you're not putting your sound system in a basement or in a room

cornerhorns, provided you've got the corners, of course.

Subject: Re: Cornerhorns, revisited
Posted by Michaelz on Wed, 14 May 2003 10:17:18 GMT
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Hi, Wayne:I have not heard the Pi corner horns or any other corner horn, therefore I cannot comment on their sound. I can only speak from my experience with my 'corner horn' (now with a deflector).I use them active xo'ed at about 65HZ 4th order. They add a lot of crisp to the mid bass, across the whole room, make cello and bass come to life. For low bass, the sound can be tremendous, it's like a 18 wheel truck next to you, you feel that trembling as well as hear it(I don't understand it when people talk about quick, tight and tuneful low bass, the low bass does not seem to have tunes. Even for the mid bass, how the bass sound sounds depends on the instrument). If this represents in any way what a 'apex' corner horn can do, then I agree with you that it's a great idea. I would like to add two more advantages of corner horns: by their size, their break some standing waves from the corners; their load the room better.

Subject: Questions to Michaelz
Posted by mollecon on Wed, 14 May 2003 18:16:55 GMT
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What driver(s) do you use?What are the dimensions of the box(es)?Are you using reflex or (as it appears) closed box - & do you use any electronic equalisation/compensation?Thx in advance for answers! :-)

Subject: Re: Questions to Michaelz
Posted by Michaelz on Wed, 14 May 2003 21:48:53 GMT
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What driver(s) do you use?What are the dimensions of the box(es)?Are you using reflex or (as it appears) closed box - & do you use any electronic equalisation/compensation?It's a square box with one corner cut off. The square sides are 2' long, based on this is the rest of the dimensions .

The closed box serves as the back chamber of the horn. The driver is JBL2245. Basically, the volume in the cone of the driver for front chamber, with the corner piece (deflector), the space between the box and the deflector makes for the horn throat. I use Behringer 3400 for active crossover, no equalisation yet.

Subject: Excellent implementation
Posted by Wayne Parham on Thu, 15 May 2003 04:08:47 GMT
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I don't know if I ever told you this, but I was always impressed with your layout. The throat area is set by the gap between the cabinet and the walls rather than using an undersize baffle cutout or compression ring or plate.I think it's an excellent implementation and very interesting.

Subject: Re: Excellent implementation
Posted by Michaelz on Thu, 15 May 2003 09:33:45 GMT
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Hi, Wayne:Thanks for the comments!I think you are very right that people would prefer to have a labyrinth between the woofer and the room and call it a horn. Had I not see the apex expansion formula you published and used it with HornResp to see the result, I would not have done it.
