Subject: 6th order alignments, BR not BP
Posted by sdoow on Fri, 26 May 2006 15:54:23 GMT
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Does anyone have any experience using the 6th order BR alignment? Placed in a corner with driver facing the room, would this make a good HT sub? My understanding is that they need 6db boost at Fb 1.07 for flattest response, since many plate amps include 6db bass boost at around 30hz it seems like a perfect fit.Thanks,GregMore info here;
http://www.highefficiencyloudspeakers.com/user/Alignments.pdf

Subject: Corner loading
Posted by Wayne Parham on Sat, 27 May 2006 14:28:53 GMT
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For use in a corner, I'd go the other way. Instead of using an alignment with a steep cutoff, go for a slightly overdamped curve. That will work better as a conjugate for the bass boost provided by corner loading.

Subject: Re: Corner loading
Posted by sdoow on Sat, 27 May 2006 17:18:24 GMT
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Thanks Wayne,I had thoughts of building a 7pi cornerhorn to serve double duty for my HT/Stereo rig in the living room. I have a roughly 2' x 2' area in the corner adjacent to the entertainment center, don't think there is quite enough room to fire a sub into the corner though. Also, I am afraid the entertainment center would block the radiation down that wall.Sooo, I was looking at the HighEfficiencyLoudpeaker website and was intrigued with a couple of his 6th order alignments, one of which, the "18SW1P" claims to be critically damped with an F3 of 26hz, obviously not producing any meaningful response below that.Or should I go the "normal" route and build a small sealed box, or ported box using a HT sub like the Titanic III.I have also thought of building something like Fitz's AutoTuba w/10" driver. A friend and I recently built his T24 with an HL10a for DJ work. I like high efficiency designs, but understand the tradeoff with regards to bulk, efficiency and depth of frequency. Just trying to find a happy medium.Any and all input greatly appreciated.Greg

Subject: Re: Corner loading
Posted by Wayne Parham on Mon, 29 May 2006 04:04:24 GMT

I have used various alignments and built tons of horns over the years. For corner loading, I prefer an overdamped vented alignment. A sealed box would work pretty well too, but I like the sound/efficiency/extension of a large-format high-efficiency woofer in a vented box. There is plenty of gain to be taken advantage of going with a corner-loaded arrangement, so I'm not sure a basshorn makes sense for home hifi unless you can build something very large, crossover very low and incorporate delay for the mains. The corner-loaded driver is an excellent alternative. It is efficient, capable of a fairly high crossover point and doesn't need delay to match the midrange.Basshorns are complex, with a labyrinthene set of passages of wood that can vibrate and resonate like a sounding board, particularly if you push them too high in frequency. If you brace well and crossover very low, a large basshorn works well but it is a lot of cabinet. You'll also need to concern yourself with summing, possibly using a delay because of the path length of the basshorn.I don't think it makes sense to go with a basshorn in a home hifi setting because they're just so large, even if designed for eighth-space. If you want extension, the horn has to be large or it's peaky. I wouldn't consider anything with 15dB peaks in the response curve, that's just not good enough for hifi. Barely good enough for PA, if you asked me. So if you are planning a basshorn, make sure you make it sufficiently large and don't push it too high in frequency. Use it like you would a bandpass sub but also pay attention to summing and delay.