Subject: 4Pi WIDTH, ROOM BOOST AND PORT PLACEMENT?
Posted by mhammill on Sat, 18 May 2002 22:34:27 GMT
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Greetings,As soon as my parts arrive I'll be starting a pair of 4Pi theaters I'm really pumped to get started. I will be using the full 48" of the birch ply for the vertical height and mount the horn at ear level centered at about 38" and the woofer close below while retaining the same internal volume as called for by the plans. I will use 4" port tuned to 26hz. The room is small and WAF must be factors.QUESTIONS1. Is 22.75" wide enough for the front baffle for (is it wave launch) or will this and having the woofer mounted higher (further from the floor have any affect on the bass response?2. Since I have a archway opening into the dining room area behind my speaker placement spot a straight rear port is not an option, but would having the port fire at floor level and to the side or corner give additional room boost by using the side wall and partial rear corner as a reflective surface? Would this have any advantage or disadvantage over a floor level outside corner front port?3. Has anyone ever tried a karlson slot for the bass in a simular design?How might this be acomplished?4. I have seen the Karlson websight but have not fully absorbed the design theory. Could the tapered port create a variable tuning point in a TQWP?I love the multiple approach attack.ThanksMike H.

Subject: Re: 4Pi WIDTH, ROOM BOOST AND PORT PLACEMENT?
Posted by ToFo on Sat, 18 May 2002 23:24:53 GMT
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Wayne has mentioned before, and I can confirm from exprience with my own theater 4's, that they do best in 1 corner. It doesn't matter if it's away from the floor and in the room corner, or sitting in the floor corner against the wall. I have tried a double corner (floor & wall) and I got monster bass that was a bit too much (but fun). I was not happy with them out in the room either. They do real nice with woofs 18" off of the floor and in a wall corner with horn @ ear height, but I opted for angling the face to fire the horns up at my head using some adjustable spikes I had in the junk drawer. It is subtle, maybe just the very top end brightens up a touch, as the horns do about 20 degrees above the vertical centerline real well. I found the angle or height trick real handy because I walk close by them a lot. Again the difference is not big.My room is average I guess. I can tell you that the worst I have gotten them to sound with placement was still great. I am about 3 dB down in the mid 20's with room gain and my current seat position helping out. These speakers are so close to flat in room it is silly. I can hardly believe it, but it sure is nice. You will have to move them and you a bit to get the flattest bass. (room response be damned)I think you will be real happy with them.Thomas

Subject: Re: 4Pi WIDTH, ROOM BOOST AND PORT PLACEMENT?
Posted by Wayne Parham on Sun, 19 May 2002 00:01:24 GMT
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That will be fine, especially if you put the speakers in room corners or at least against the wall. The design works best in eighth-space or quarter-space. The difference in baffle size will change the step frequency, but placement near room boundaries counteracts baffle step.As for the port, position makes no difference provided the port isn't obstructed. The only exception is when the port is placed in a location where there is a high pressure standing wave node. Helmholtz resonance is unaffected by port location, but the influence of internal standing waves nodes is determined by the positions of the driver and port in relation to cabinet boundaries.

Subject: Re: 4Pi WIDTH, ROOM BOOST AND PORT PLACEMENT?
Posted by JLapaire on Mon, 20 May 2002 10:51:50 GMT
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Mike, I think your boxes and mine are similar in size, except that I made the front panel even smaller by cutting the corners off. Width is 18", 22" overall cabinet width. Speakers will stand 49 1/2" high, plus feet if any. I taped the pieces together, spread glue, then rolled the thing up into a tube. Now if the woofers would only show up!John