Subject: Driver Spacing Question
Posted by DRCope on Tue, 17 Dec 2002 13:10:43 GMT
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How close to the upper edge of the cabinet should I position a TAD 1602 if I'm putting a TAD 2001 in a Marintelli horn on top and crossing over in the 800-1600 range? I'm trying to make the transition as seamless as possible.Any thoughts on porting to the front vs. the rear? Centering vs. offsetting?Thanks! Keep your ears and your mind open.

Subject: sometimes aesthetics
Posted by Sam P. on Tue, 17 Dec 2002 14:11:49 GMT
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overides the principle of minimizing driver vertical spacing. If you position the woofer at the top of the enclosure, with equal distance from each side and top, it will look "good" and be pretty close to the horn on top. Since you are not "losing" any front baffle space to a h-290 cutout, you have a large, open area in the lower portion of the front to symetrically place a round port. If using a rectangular port, it could be resized to look nice as a "slot" opening across the lowest portion of the front baffle. Cerwin Vega had something similar exiting from the rear of a few enclosures. But a round port, spaced equal from the sides, and centered between the lower edge of the woofer and bottom of the baffle...pretty basic, a simple low tech look that does everything right. Visually, YOU have to be pleased. I have even gone as far as cutting out "mock driver and port holes" from black paper, and taping them to a front baffle, then look at them for a few days. Sam

Subject: Re: sometimes aesthetics
Posted by DRC on Tue, 17 Dec 2002 14:39:01 GMT
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Cool. So that puts the driver about 2.5" from the top of the cab, since it's a 15" driver on a 20" wide cab face.Any sonic difference between putting the port on the front or the back? Round vs. rectangular vs. slot? Keep your ears and your mind open.

Subject: sounds OK

Posted by Sam P. on Tue, 17 Dec 2002 15:14:32 GMT
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for the woofer location. What vent dimensions are you using. I used a pair of 3 inch vents for my quasi-4 Pi Pros in the lower corners of the front baffle, because I did not have room for a single large round port...which you DO. I would window shop for pvc pipe, then use boxplot to work out what length you need for that specific vent area. Sam

Subject: Re: sounds OK
Posted by DRC on Tue, 17 Dec 2002 15:18:37 GMT
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Wayne worked out the dimensions for me, and I think I'll go with round and use a length-adujstable port to fine tune things.Thanks! Keep your ears and your mind open.

Subject: Re: sounds OK
Posted by Wayne Parham on Tue, 17 Dec 2002 17:24:55 GMT
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The main thing to consider is difference in distance between the listener and each driver. For this reason, drivers are usually best aligned vertically so there is no horizontal offset (or very little compared to wavelength at crossover). Vertical spacing determines the vertical null angles, setting the width of the arc of constructive summing. There's a little more to it than that, but if you'll keep drivers fairly close and in a vertical line one above the other, you'll be alright.As for port position, this is almost irrelevant. All you're doing is forming a Helmholtz resonator, and the port orientation isn't important for such a device. So this too becomes a matter of aesthetics, although there are a couple things to consider. One is that you don't want the port blocked, and another is that you don't want midrange energies to setup standing waves inside the port. That's why I like having ports in a position where midrange energy is attenuated by insulation, rather than placing them in line with a reflective panel or opening directly towards the woofer.

Subject: Re: sounds OK
Posted by DRCope on Tue, 17 Dec 2002 17:43:55 GMT
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Obstruction won't be a problem in a 40" tall cabinet with the woofer up top and the port down low!Sounds like I should position some insultation between the port and the lower portion of the opposite panel, though. Yes? Keep your ears and your mind open.

Subject: Re: sounds OK
Posted by Wayne Parham on Tue, 17 Dec 2002 19:04:02 GMT
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I'd line the front panel interior with insulation, and put the woofer and port both on the back panel. In this manner, the front baffle won't act as a reflector, bouncing midrange enrgies into the port. I'm assuming you're building cornerhorns, as I recall, that's what you're building. If they were bass-reflex boxes, I'd line the rear panel with insulation, and put the woofer and port on the front panel, so it's essentially the same thing but reversed.

Subject: Re: sounds OK
Posted by DRC on Tue, 17 Dec 2002 19:24:01 GMT
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Actually, it's going to be BR. So the woofer and port should go on the same panel either way, with insulation on the opposite wall.Thanks, Wayne! Keep your ears and your mind open.

Subject: Re: sounds OK
Posted by Colin on Wed, 18 Dec 2002 05:43:45 GMT
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"If they were bass-reflex boxes, I'd line the rear panel with insulation, and put the woofer and port on the front panel, so it's essentially the same thing but reversed".Going to collect the drivers for my 2pi towers tomorrow, Regarding the port, the plans show it on the rear, here you recommend the front. I know that when I asked before you said that it did not really matter, but which is best?RegardsColin

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Subject: Re: sounds OK
Posted by Wayne Parham on Wed, 18 Dec 2002 07:32:20 GMT
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unusual in that they are very tall. Because of this, standing waves develop along the long dimension, so driver and port position become important. You don't want either the port or the driver to fall on a 1/4 node or odd multiples, as it would develop ripples in response. My suggestion is to leave the port where it is shown in the plans.