Subject: Mid horn question
Posted by Russellc on Sat, 16 Oct 2004 15:47:23 GMT
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I received my 2123H drivers this morning. They are OEM units still in their original boxes and haven't ever been installed yet, still have their final test tags on. Anyway now I need your midhorn kit, and after looking at all the diagrams on your site & forum, it appears that I must build a small enclosure to go on the back of the unit, correct? If so, what size should it be for this particular driver? About the only discussion I have seen about this said something like "anything over a 1/2 cubic foot" The JBL info says from 1/4 to 1/2 cu ft, so I guess that sounds about right? Is there any tuning advantage to the box size on the rear? What sort of stuffing and amount, if any, should this chamber be filled with, All this is probably in the instructions that come with the mid horn kit and I should just shut up and order it? Thanks in advance,
Russystems

Subject: Mid horn answer
Posted by Wayne Parham on Sat, 16 Oct 2004 19:08:04 GMT
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The midhorn was designed to have an open back, or one that is arbitrarily large. The idea is to have no peaking from a sealed rear chamber. So it should be large enough that it is, in essence,

so you'll have all the dimensions you need, for the midhorn cabinet and everything else.

Subject: Re: Mid horn answer
Posted by Russellc on Sun, 17 Oct 2004 14:04:42 GMT
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Wayne let me ask this so I am completely clear on the best way, what type of back do you use on the 7 Pi professional (7PI corner horn, mid horn, high freq horn,) or is it run open backed? I would like to Replicate it as closely as possible! Your Comments on that combination with the stoekit (spelling) impressed me. Is it still possible to review that thing, or is that over with? What a great idea! Thanks Again for your time & patience, Russellc

Subject: Re: Mid horn answer
Posted by Wayne Parham on Sun, 17 Oct 2004 19:41:10 GMT
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About the Stoetkit, I'm pretty sure Frank Stuppel is still making it available for demos. And I think

Hotmail address. I didn't receive an error message saying they exceeded your space limits so I assumed you got the plans, but I guess not. But I just looked in my address book and found your SBC address, so I've resent the plans there. If you don't get them this time, let me know and tell me an alternate address so I can resend. The plans have the exact dimensions of everything,

cornerhorn loudspeakerbass and mid cabinets, side view

Subject: Re: Mid horn answer
Posted by Russellc on Sun, 17 Oct 2004 19:52:55 GMT
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Thanks a million wayne, I'll see if the little amp is still available.Thanks for the plans, the hotmail address just isnt big enough, it takes the other one at SBC. Thanks again. Russellc

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Subject: Re: Mid horn answer
Posted by Russellc on Sun, 17 Oct 2004 20:55:29 GMT
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Wayne for what ever reason the crossover downloaded to my brief case, but I can't open it, I think it got corrupted. could we try just the crossover again? Thanks, Russellc

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Subject: You've got mail!
Posted by Wayne Parham on Sun, 17 Oct 2004 22:52:59 GMT
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Subject: Re: Mid horn answer
Posted by GarMan on Mon, 18 Oct 2004 18:22:21 GMT
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Hi Wayne. Just to clarity. When you say "open-back", you mean a rear chamber volume sufficently large enough to not impact bass alignment (in this case, greater than 0.5 ft^3). However, a closed back is still necessary to contain back waves.Can you please confirm the last statement. That means the mid-horn should not be used open-baffled?Gar.

Subject: Re: Mid horn answer
Posted by Wayne Parham on Mon, 18 Oct 2004 19:26:52 GMT
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That's right. I've run them open back and they sound great. But I'd rather close the back, and with a large enough rear chamber, tuning is the same as if the rear were open and the backwave is contained. This prevents the rear wave from causing reflections and intereference, so I recommend it.

Subject: Re: Mid horn answer
Posted by GarMan on Mon, 18 Oct 2004 20:07:33 GMT
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With my back problem for the past 6 weeks, I've been in no shape to veneer my JBL cabinets, so I've been wasting, ... no, spending my time reconfiguring what I already have. I've crossed a pair of Alpha10 on midhorns, completely open-backed, to my Theatre-3. The transition between mid and hi's is pretty good, but I don't think I have the mid to low transition right yet. I thought I might need to close the back up completely. But that would require woodworking with a bad back...Would you please send me a copy of the crossover document for the audiophile series. I'm interested in seeing how you approached the crossover with the midhorn. I recognise that attenuation would be different for a direct radiator vs corner horn, so I'll keep that in mind.thanks,Gar.

Subject: You've got mail!
Posted by Wayne Parham on Mon, 18 Oct 2004 21:12:39 GMT
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I hope some rest on your back helps and your're on the mend in no time.

Subject: Re: You've got mail!

Posted by GarMan on Tue, 19 Oct 2004 01:00:34 GMT
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Thanks for the files Wayne. From the looks of it, the woofer and mid are attenuated on the high end with a psuedo 1st order, but there's nothing on the low end of the mid. Does the horn itself act as the high pass filter or is the system designed for the mid and woofer to blend together under 250Hz? I'd also imagine that the woofer overlaps with the mid up to 1KHz too, unless the corner horn acts as low pass filter.

Subject: Woofer / Midrange Crossover
Posted by Wayne Parham on Tue, 19 Oct 2004 03:44:23 GMT
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The low end cutoff of the midhorn acts as a high-pass filter, and the driver is able to handle a lot of low frequency power, so that's why there is no electrical high-pass. If you're really cranking it, it might reduce IM to add an electrical high-pass, but the midrange driver is able to handle 300 watts all the way down, so it's safe.As for the woofer, that 5mH (L3) coil chokes the highs pretty well. Without a conjugate Zobel, you're right that more high frequency energy is applied across the woofer than would be if it were purely resistive. So without a Zobel, it's a "pseudo-first-order" filter. But the coil is rather large, so attenuation is about -15dB at 1kHz, where it stays pretty level as frequency rises. The signal across the voice coil drops between 250Hz and 1kHz, but after that point there is no additional attenuation and it never gets beyond about -15dB. Still, that's enough and allows the circuit to remain simple. Down this low in frequency, wavelengths are long so integration is smooth too.

Subject: Re: Woofer / Midrange Crossover
Posted by GarMan on Tue, 19 Oct 2004 13:27:48 GMT
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Hi Wayne. I also forgot about the quarter wave thing where the corner stops acting like a horn but becomes a reflector instead. So I guess at around 150 to 200 Hz, there'll be an additional 3dB drop for the woofer as well. It makes sense to me know.