Subject: Hi Bill and others. I think I've got it fixed now :-) Plz check!
Posted by Adrian Mack on Wed, 09 Jul 2003 03:08:20 GMT
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Hi guys,Well, I've taken everyones advice and "fixed" my design. Below is the new baffle arrangement:Total cabinet height is now 42", which does seem quite a nicer figure :-). I've decided to run the midrange horn from 400Hz to 1.6KHz now. Its actually a slightly redigned horn so its smaller now as well. This makes the horn smaller at the mouth, but the main reason for this is so that the cabinets could be 10cm less in depth. Hornresp shows the midrange horn dropping at 1KHz, but I think I'll bite the bullet and hope it does 1.6KHz properly seeing as Hornresp shows "premature rolloff". Now, the compression driver will be run from 1.6KHz and not 1Khz, so it should be less distortion here too. I've also re-read the posts that Wayne suggested on the baffle spacing/time alignment thing, I think I've got it pretty much as best as it can be now in terms of this. I've taken Bills advice and decided I should recone the 2225 baskets to a 2235, then run them in a bass reflex cabinet from 30Hz to 400Hz. I'll only have about 70L for each bass section though, but the 2235H in a 70L box with an Fb of 30Hz does give a nice flat response, the inroom -3db point will be 40Hz. I guess I could make the bass section a big larger and have an increased cabinet height, but the difference would only shift the -3db point down about 2Hz, so I wont bother with doing that. Unless of course its better to have the woofer a bit heigher than 5.65" from the ground, then I'll happily increase it. But it seems that it doesn't matter how far from the ground this woofer running 30Hz-400Hz is, so I think I can just keep it at its current smaller height instead. Just as a sidenote, the baskets for the JBL 2205 and 2225 are exactly the same I think, and the recone kit says it works in both 2205 and 2225 baskets. But because the baskets are the same, and the same recone kit is for both versions, then I dont really know what I am reconing too :P lol. It could be somewhere inbetween a 2205 and 2225! Strange. Anyway, I'm reconing to a 2235H, but its just something I thought I'd mention. If I did completely trash this design (which I dont think I will), I think that the 2225's can run up to 1.2KHz, because thats what JBL reccomends, and also in another post by Wayne here he says that the 2225's run fine up here, its only the 2205's that have limited midrange output. Thats something else I thought I'd mention. I really like the idea by Thomas (aka ToFo) about making different sections of the cab bolted togethor so essentially I can change between two and three way whenever I want. But for now, I think that what I've got above should work pretty well... I hope so anyway :P ToFo, I'm running the P.Audio PA-D45 compression drivers. Apparantly they go down to 1Khz OK. Sooo... is there anything else I should change on my design?Wayne, do you think you could send me plans for the Studio Series 2pi tower? I have a friend who is very interested in these :-)Thanks!Adrian

Subject: Re: Hi Bill and others. I think I've got it fixed now :-) Plz check!
Posted by Bill Martinelli on Wed, 09 Jul 2003 10:28:39 GMT
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Hi Adrian,This looks like a great cabinet to me. The only thing I would mention is you say 70 liter for the lf driver. You have the whole cabinet volume, less the horn displacement available for internal volume. If your cabinet are 14" deep I calculate about 160 liters internal. Less the two horns should still net you 125+ ? With horns it is not necessary to close off the lf driver in a chamber. JBL and all others I have seen utilize all the cabinet volume surrounding the horns for the bass. You need to build a closed chamber around your mid horn driver is all. Bill

Subject: Re: Hi Bill and others. I think I've got it fixed now :-) Plz check!
Posted by Adrian Mack on Wed, 09 Jul 2003 13:17:29 GMT
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Hey Bill,What I was actually gonna do, is have the bass section in its own compartment. Thats only because for the top half of the back of the enclosure, I would like the back removeable, so that I can access the back of my midrange horn should I need to get to the Alpha 6 (the horn cant be removed from the front because its a wooden one I am making~!). I guess, if I could make the back secured really well, then I could forget about the seperate compartment. I'm thinking the back would probably rattle heaps though if there wasn't a seperate bass compartment with a permantly secured back. Because of that I think the seperate section is probably the only way. Yep, the midrange horn has a back chamber and wouldn't interfere with the woofer operation if it was used in the same compartment. The horn itself might restrict air flow within the box, because it takes up quite a large area of it. Probably not going to be a problem though, at least not as large as the other problem above.How do you think the 2235's will go living in a 70L 30Hz tuned box? I do have a good sub, but still I'd like to be able to get a lower -3db point than 40Hz when placed in a room seeing as the driver is very capable of bottom octave extension, but thats about the best I can do with 70L. I guess anyway if it was tuned any lower, then the large excursions at ~20Hz would make it difficult for the driver to reproduce 400Hz at the same time which requires only small cone movement/excursions. Adrian

Subject: Re: Hi Bill and others. I think I've got it fixed now :-) Plz check!
Posted by Bill Martinelli on Wed, 09 Jul 2003 17:01:53 GMT
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Hi Adrian,You should have no problems making a removable back to the cabinet that wont rattle or leak. Use a small rubber or foam gasket around the wood strip that the back is going to screw into. A cross brace that the back screws into will also be helpfull. You dont wanty the entire back panel to be unbraced or it will be a drum head. Bill

Subject: 2235H in 70 L
Posted by LuxmanLover on Wed, 09 Jul 2003 17:18:40 GMT
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I swapped out the 2226H for 2235H in my 4P1 Pro cabinet which is approx. 70L (with appropriate

crossover changes). The 2235's have a ton more bass than the 2226's even in this than optimal alighment. IMO they have a bit warmer midrange than the 2226, not that I don't don't think the 26's are great drivers cause they are but they seem to need to need a bit more volume than I want, to really shine. Kelly

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Subject: Re: 2235H in 70 L
Posted by mikeported on Thu, 10 Jul 2003 04:17:11 GMT
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hey how u goin u had 70L box for 2226h? i modeled 100L,it was abit crappy :Pi have a 2226h, 175L 33hz Fb.just need a jigsaw.. :o)

sub site

Subject: Just like to point out....
Posted by Adrian Mack on Thu, 10 Jul 2003 07:35:27 GMT
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Hey Mike,Just like to point out that the 4pi pro isn't made for subbass duty - its for pure sound reproduction, fullrange from 40Hz to 16Khz. They would sound excellent in this area!Adrian

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Subject: 2226 in 70 to 115 liters
Posted by Wayne Parham on Thu, 10 Jul 2003 15:01:10 GMT
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For flat response, 70 to 115 liters tuned to 40Hz is best for the JBL 2226. You can put a 2226 in a larger box using an ELF alignment for deeper bass, but there are other drivers that are better suited to subwoofer duty.Then again, the 2226's are pretty sweet, and making subs out of 'em wouldn't suck. It's just that you'd probably want to use 2235's or 2245's if you had the choice, and use 2226's as midwoofers instead.

Subject: Re: Hi Bill and others. I think I've got it fixed now :-) Plz check!
Posted by DRC on Fri, 11 Jul 2003 14:33:41 GMT
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Sounds vaguely familiar . . . .TAD 1602 38-300 hzJBL 2123 300-1600hzTAD 2001 1600hz -->20wx40hx15d ported cabinet, mid in sep enclosure, Martinelli horn sitting up top in all its glory.I hemmed and hawed about dumping the mid driver, but didn't. Having played this system as a tw-way, ignoring the mid using an active xo, and as a 3-way using Wayne's 300/1600 xo, all I can say is KEEP the mid. The improvement in ease and clarity is huge.For really odd views of the spkr, see below. Taken with pinhole camera using 4x5 Polaroid film back. Focal lengths of 25, 50 and 75 mm. (25 is freakin' WIDE on a 4x5 camera!) Keep your ears and your mind open.

4pi Audiophile Edition pix