Subject: woofers for sub horn
Posted by Adam on Fri, 20 Aug 2004 16:20:42 GMT
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I need a woofer for music/home theatre use that will work excellent in a horn loaded enclosure down to about 28-30 Hz. I realize the size of his horn will be large and I'm not worried about that. I just need a driver with the appropriate specs and that has a relatively low Fs for great low frequency response. I want a driver that is an excellent piece such as a JBL driver, not just somethign medicore like an Eminence Kappa.Also, adding mass to the cone driver is an option to lower resonant frequency if necessary.Thanks.Adam

Subject: Re: woofers for sub horn
Posted by Wayne Parham on Fri, 20 Aug 2004 20:17:13 GMT
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When Eminence finishes the B12, I think it will be one of your best options. They tell me they plan to be able to get it done around the end of the summer.

Subject: Re: woofers for sub horn
Posted by Adam on Fri, 20 Aug 2004 20:47:17 GMT
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Really? EBP on the driver is pegged at only 58. What makes this an appropriate option? What makes this particular driver suitable for horns, and being a 12" driver is it going to hold me back at all from a more conventional, higher effeciency 15" driver? Also, is the preorder still available and willt hese be available commercially?Thanks Wayne.Adam

Subject: Re: woofers for sub horn
Posted by Wayne Parham on Fri, 20 Aug 2004 21:47:33 GMT
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You're right that bandwidth in a horn is limited for this driver. It won't get anywhere close to a decade. But I think that if you intend it for use under 150Hz or so, that won't really be an issue. The main things that are attractive are its low resonance and the fact that an oversized shorting ring is being used. Orders will be accepted as soon as the prototype is built and tested and has proven itself to pass requirements. I'll be sure to make announcements as the time draws near.

Subject: Re: woofers for sub horn
Posted by Adam on Fri, 20 Aug 2004 23:21:03 GMT
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I'm primarily concerned about output below 80 Hz, so that shouldn't be a problem. Woudl you be able to help me design a 25-28 Hz, 1/8th space, 1/4 wavelength exponential horn for this driver? The only limitations is the horn can't occupy more than 12' of width and the mouth can't be taller than about 8'. There will be a stereo pair of the horns built into a wall, with the mouths of the horns emptying into the corners of the room. Also, will this subwoofer be commercially available after the preorder?Thanks Wayne!Adam

Subject: Horn Design
Posted by Mike.e on Sat, 21 Aug 2004 06:09:55 GMT
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Hi AdamTo design a horn backround info is needed.Issues1. You dont require stereo horns unless you enjoy 2 monsters instead of one.2. http://www.melhuish.org/audio/horn.html horn general info3. http://www.geocities.com/sc00byd0159/TD.rtf Tom on the labhorn(lab12 basshorn)to get a few ideas.4. http://homepages.paradise.net.nz/quadroph/30hzexpo.htm my original plans(note that this is old,and the woofer dimensions are actualy much more deeper and wider-i need to remove this site)5. One needs to get intimate with HORNRESP6. Large horn means bracing,and HDF/25mm MDF.7. http://vincent.brient.free.fr/bass_horn.htmRead the wiki linksNote that the excursion minimum,is not located at the F3 point like on a max flat ported box alignment!-because my horn design was extremely small mouthed. In the 30hz expo case,the low excursion point was ~38hz. With a long excursion driver like the B12/lab12 its less of a problem at sane SPL levelsWe are talking 500litres for corner horn of 30hz F3.You could easily make it extend lower and trade a few db in efficiency ,say 101db/1watt at 24hz. Note that a large mouth is more technically pleasing even if i dont think it sounds 'better'Cheers!Mike.e
Basshorn wiki

Subject: Re: woofers for sub horn
Posted by Wayne Parham on Sat, 21 Aug 2004 06:33:24 GMT
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Sounds like a fun project! I'm game.About the B12 subwoofer, we will need to have 100 units presold for Eminence to go into production. When the project was first announced, there was easily enough response to achieve that goal. Now that Eminence has taken some time to do a second prototype, we'll have to see what interest there is. When they have the second prototype ready and tested, I'll announce it here and get commitments from people. If there's commitments for a 100 or more, we'll take orders. If response continues after the initial offering, the B12 will

become a regularly stocked part. So like everything else, the supply for the B12 subwoofer will be dictated by its demand.

Subject: Re: Horn Design
Posted by Adam on Sat, 21 Aug 2004 14:17:33 GMT
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Hi Mike,Thanks for the info. I am familiar with horn theory and hornRESP, I just like to have Wayne in on complex horn designs. The only reason I'm using stereo subwoofers is to decrease standing waves and room modes... Operating more than one subwoofer smooths frequency response over the whole room.A 24 Hz horn would be great... I'm not seriously worried about reaching huge sensitivity levels. I just have to make sure the 1/4 wavelength and the mouth size can be accomidated. I have no idea what the 1/8th space mouth size would have to be on a 24 Hz horn, but I imagine it's fairly large!Adam

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Subject: Re: woofers for sub horn
Posted by Adam on Sat, 21 Aug 2004 14:18:05 GMT
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Thanks man, I'll contact you with more details.Keep me updated on the prototypes.Adam

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Subject: somebody say 24 hz horns
Posted by gazzamongo on Sun, 22 Aug 2004 08:40:11 GMT
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25hz close enough?gazza

http://uk.pg.photos.yahoo.com/ph/gazzamongo/album?.dir=2aa9&.src=ph&store=&prodid=&.done=http%3a//uk.pg.photos.yahoo.com/ph//my_photos

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Subject: Re: Horn Design
Posted by Mike.e on Mon, 23 Aug 2004 00:43:55 GMT
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Youl be looking at ~700litres ea then.1x12" lab12 per horn ?If you decide on a driver its easy if you fold the way i do.The classic S style folding still works.That F3 40hz horn,has excursion minimum at 50hz(good for most music) and is 340litres :-)Copy and Pastehttp://www.geocities.com/basshornguy/40hzi.PNGhttp://www.geocities.com/basshornguy/40hzl.PNGCheers!

Subject: Re: somebody say 24 hz horns
Posted by Wayne Parham on Mon, 23 Aug 2004 02:19:38 GMT
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That's a really impressive horn and article. Thanks for posting it here. Do you suppose you could make higher resolution images available? I think I'll drop a link over at the High Efficiency forum.

Subject: 24hz Design
Posted by Mike.e on Wed, 25 Aug 2004 03:32:55 GMT
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-1x lab12 driver-Throat 200cm^2-Expo 6metre path-Mouth 6000cm^2 -Rear chamber 55 litre-Corner usage-Low excursion point- 24hz,43hz.100db/1watt @ 20hz 105db/1watt @ 50hz100watt input 125db 50hz100watt input 123db 23hzwith that 100watt input,excursion is great below 23hz,subsonic filter required.I can cad it sometime if your interested.Probably just a big S folding.Cheers!
homepage
