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Subject: further efforts with a developing array....

Posted by [Eric J](#) on Mon, 12 Sep 2005 10:50:12 GMT

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New pictures of current design. I won't be building the woofer until I can determine whether the modeled midranges when ported actually do go down as low as 60hz. If so, after testing, then I will use an isobaric ported design for the woofers, and cross the midranges at about 90. This will be quite a bit above their low, but will flatten out their curve up to the point of the crossover. Without this design, using a sealed system, they start dropping at about 150 hz. This would entail using the woofers as regular woofers one on each side, and the woofer's would not be flat to 30, and would require substantial equalization. The midranges would be tuned to 61.21, in a tube of 287 cu inches, with a curved .25 x 2 inch rectangular port long which is 1.3 inches deep. The group delay of the midranges doesn't become objectionable until about 70hz, well below their crossover. If the midranges can be successfully ported instead of being sealed, it will also allow me to use the Goldsound 12 woofers in DVC configuration in an isobaric design as a sub woofer, since i can cross them much lower than if the midranges were in sealed tubes. In this modeled design, as the picture shows, they are ruler flat to about 26 hz, and down only 2 db at 22, easily brought flat to 20 using the equalizer. Its tuned to 22.2 hz in a 3.9 cu ft box, using one 3 inch diameter vent 7.5 inches long. Each DVC woofer in the isobaric clam shelled pair would be powered by its own 250 watt rms amplifier, using up the full 500 watts rms for the woofer clam. The midranges and the tweeters have their own separate amps(160 watt rms/ch for the mids, and overkill of 55watt/ch for the tweeters. Its hard to find a power amp for less than 50 watt/ch, unless you build it yourself. We'll see what it tests out as when its done. I can always build another IKEA woofer box, and plug the port holes on the sammi midranges. You can also participate in a small email list which talks about respective speakers people are building. just email eric to be included.eric

Eric's speaker pictures

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Subject: Re: further efforts with a developing array....

Posted by [Eric J](#) on Wed, 14 Sep 2005 12:09:28 GMT

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On further consultation, I will be putting the port in the rear of the speakers. Since deep bass is not involved, any sound from the back will be overwhelmed by the front and not be noticable. Additionally, a round port is far better than a rectangular one. Further work is delayed by fall tasks of getting house repairs done, and dealing with firewood for the winter.eric

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