Subject: Can we get away with a tall, narrow horn?
Posted by noviygera on Tue, 18 Aug 2009 06:24:40 GMT
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Wayne,

I finally got to try the Hornresp with 9pi midbass parameters as a starting point. Indeed, a very useful tool, that brought me a wealth of information about horns, and clarity to what would have been trial and error, maybe lost time and money.

For example, I modeled the DDS 10n pro horn and contrary to what DDS told me the horn only works truly down no lower than 250Hz (and NOT 150Hz!) which is not good for my application.
I found out that for 200Hz in Half space the smallest horn mouth would be about 560 in sq.
Thanks for your advice!

I do have a question and it's more like a theory for a 600Hz crossover:

Lets say the HF horn is mounted above the MF horn.The vertical distance between driver centers of HF horn and MF horn is about 20" (for example, if the MF horn mouth is tall). Crossover point is 600Hz. Listening distance is 7 to 14 feet. Will the sound be coherent? Is the spacing too great to sound "right"?
So, let say I use a 36" high x 20" wide mid freq horn, rather than 20" high x 36" wide. I know coverage pattern is flipped. BUT! it's not a big deal if the horizontal and vertical pattern at 600Hz are pretty similar. Here some proof i found:
http://www.eaw.com/info/EAW/Loudspeaker_Product_Info/Legacy_Loudspeakers/MH_Series/MH690iE.pdf
this is a 90x40 mid horn.
on PAGE 27, look at the pattern numbers below 800Hz. The speaker is becoming less directional.

Why bother with this? So that we can flip the flat and wide midbass horn on its side and have a "friendlier" narrow but tall midbass that can be used as a floor coupled stand for the high horn. If the high horn is 18" wide, we can make the midbass 18" wide, and 36" high and get away with good coverage pattern (given crossover is below 600Hz) Or can we? That why I'm asking if the resulting longer spacing between driver centers is a problem.
What do you think?

-Herman