Subject: Re: Any decernable results from round over at mouth of horns and cabinet edges?
Posted by Norris Wilson on Sun, 24 May 2009 17:40:33 GMT
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Thanks Wayne for taking the time to write out an excellent reply that is very detailed and easy to comprehend. That is very helpful for me due to my limited knowledge on the subject.

I would like to ask you a few more questions if I may.

Regarding the 3kHz collapse of the vertical beam pattern created by the 40 degree angle of the horns that you use in your designs.
I am wondering if the size of the throat of these horns, the H-290 being 1" as a example, have any effects on this 3kHz beam-width collapse point?

Would a compression driver with a 1.4" diameter opening at the throat have this narrowing of the beam-width at a lower frequency, say closer to 2kHz versus 3kHz?

Also, could this 3kHz collapse due to the 40 degree angle of the horn with a 1" throat be manipulated up or downward due to the cut off of the horn? Would the physical size of the mouth of the horn have any effect on this 3kHz narrowing of the beam-width?

As you know, I have the Beyma constant directivity TD-250 1" horns with 90 degree by 40 degree dispersion angles.

There is a bump, or slight rounded over protrusion with a flat side that is positioned on each side of the throat of the horn.
This protrusion is positioned about 1.5" in front of the horn throat where the CD attaches.
Would this protrusion be a diffraction slot that you feel introduces discernible distortion in the bandpass?

BTW, I have heard the negative distortion effects of the sound when using a Manta-ray horn, very peaky and spitty at higher volumes.
But, to be fair, there could be other factors that helped to create these negative effects other than the horn itself in this specific speaker design.

And, changing gears a little here.

Taking the Four Pi design as an example using the JBL 2226 as the woofer, and Emminence H-290 as the horn mounted in the baffle per your latest version.
Could an 8" to 10" diameter midrange driver that is baffle mounted above the treble horn, and crossed in around 250Hz to 300hz from the 2226 with a shallow sloped filter, be retrofited to work properly under your design premise using the vertical nulls? I guess you could say this would be a W-T-M vertically stacked baffle arrangement.

Would there be any type of destructive interferences effecting the proper mating of the midrange and treble horn with this W-T-M stacking arrangement?

And finally, would the midrange driver being placed above the treble horn have any type of sound reproduction anomaly? Anomalies like improper placement of performers, or instruments in the stereo sound field, causing poor imaging?

Thanks for your knowledge.

I would like to thank you for making all of the great changes to the ART forum. The new posting features and thread partioning make life much simpler, especially the edit and spell check features.
My spelling and sentence structure is-m terabull.

NW
