Subject: Any new horn flares to work with midhorn?
Posted by Norris Wilson on Fri, 22 May 2009 05:21:03 GMT
View Forum Message <> Reply to Message

Hello,

Have any experiments been done with new horn flares over the H-290 and Pi wooden tweeter horn for mating to the Seven Pi mid-horn? Possibly an elliptical conical type, or waveguide/shallow horn been tried?

If so, what were your conclusions, were there any that stood out?

Thanks

NW

Subject: Re: Any new horn flares to work with midhorn?
Posted by Wayne Parham on Fri, 22 May 2009 12:37:47 GMT
View Forum Message <> Reply to Message

I've worked with a lot of horn types, both in the past and more recently. I have found none that were better but lots that were worse. Some have sharp edges that cause discontinuity and impedance spikes, ultimately resulting in ripples in response. Some have the wrong coverage pattern, like too much vertical spread.

On the other hand, there are several horns/waveguides I would consider to be functionally equivalent, only slightly different in some respects like different FR (particularly at the low end), etc. Of the best contenders, the biggest problem I see are those that have too much vertical spread.

A horn or waveguide with tall vertical coverage suffers nulls right in the middle of the pattern. They direct too much energy at the floor and ceiling too, causing excessive reflections. Ceiling slap is a really weird sound. To be real honest, I don't understand anyone using one of those things in a room with traditional eight foot ceilings. They're terrible.

Of those that are closest in performance, those that I would consider to be functionally equivalent, they are fine as long as they are setup properly, putting the forward lobe out front. The depth is one of the things that sets the position of the forward lobe and subsequently, the position of the vertical nulls. To ensure proper summing at all places in the pattern, the crossover may need to be adjusted to account for any difference in depth. As long as that is accounted for, overall performance is very similar.

Waveguides vs Horns

Subject: Re: Any new horn flares to work with midhorn?

Posted by Wayne Parham on Sun, 24 May 2009 05:11:38 GMT
View Forum Message <> Reply to Message

More on the subject in my reply to you in the High Efficiency Speaker forum:

My personal opinions of various design philosophies