Subject: 4 Pi Speaker Plans
Posted by Maxjr on Sat, 06 Aug 2011 04:27:39 GMT
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Hi Wayne!

May I please I have the plans for your 4 Pi Speaker build? I think these will be the ticket for my new mains

Thank you!
Joel

Subject: Re: 4 Pi Speaker Plans
Posted by Wayne Parham on Sat, 06 Aug 2011 14:36:47 GMT
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Subject: Re: 4 Pi Speaker Plans
Posted by Maxjr on Sun, 07 Aug 2011 18:35:55 GMT
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Thank you, Wayne!

Subject: Re: 4 Pi Speaker Plans
Posted by Maxjr on Mon, 08 Aug 2011 09:52:59 GMT
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Wayne, or any other 4 Pi owners, I'm curious about how the 4 Pi speaKers sound on lower listening levels. How are they if I wanted to watch regular tv with them? Do they have high sound quality at lower levels? I'm learning so much and the whole waveguide / constant directivity is foreign territory for me. Thank you in advance!

Subject: Re: 4 Pi Speaker Plans
Posted by Wayne Parham on Mon, 08 Aug 2011 13:15:37 GMT
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Many here run their speaker with SET (tube) amps that run 3 to 10 watts. I use mine with 10 watt amps and love them.

Subject: Re: 4 Pi Speaker Plans
Posted by Maxjr on Mon, 08 Aug 2011 19:38:02 GMT
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That is good to hear and very encouraging. Thank you, Wayne! I've seen pictures of people putting foam into their waveguides. Is this a good option for 4 Pi owners? Are there any benefits?

Subject: Re: 4 Pi Speaker Plans
Posted by Wayne Parham on Mon, 08 Aug 2011 21:46:17 GMT
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The idea behind putting foam in the horn is to reduce non-axial wavefronts caused by internal diffraction.

One can certainly see evidence of the discontinuity from throat diffraction in impedance sweeps, as are shown in measurements of horns with sharp edges in their throats. You can also see the influence in the polars. Myself, I just avoid using horns with sharp edges inside them.

I don't suppose it hurts to put foam in the throat, but I wonder how much difference it makes. The idea behind the foam is it attenuates the axial wavefront less than non-axial wavefronts, but how much extra attenuation for these non-axial wavefront is realized? I mean, even if the non-axial wavefront went through twice as much foam, it would only be like a 2dB difference. So I don't think it could possibly be very effective.

One thing is for sure, if you put foam in the throat, you'll have to decrease the attenuation of the compensation network by a couple decibels to make up for the loss of the foam. Also, if the foam isn't a spherical section at the face, then the off-axis output that you want is attenuated more than the on-axis output, which hurts the polars. It has to be rounded in front for best results.

Subject: Re: 4 Pi Speaker Plans
Posted by Maxjr on Mon, 08 Aug 2011 23:20:06 GMT
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Thank you, Wayne, for your response. I've been doing slot of reading on your forum and have decided to build 1Pi's for surround duties. May I please have the plans for the 1Pi's?

Cheers!
Joel

Subject: Re: 4 Pi Speaker Plans
Posted by Wayne Parham on Tue, 09 Aug 2011 12:55:44 GMT
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