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Subject: Re: Axisymmetrical horns

Posted by [Duke](#) on Sat, 17 May 2008 19:22:11 GMT

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Excellent question! It's a trade-off. Yes there is vertical lobing in the crossover region, but the power response takes only a minor dip at worst. Most listening is from far enough back that the vertical lobing in the crossover region isn't obvious when you go from sitting to standing, probably because the vertical pattern at high frequencies is pretty uniform. Indeed, I've had speaker designers remark unprompted that they can't hear the crossover. Having a round pattern puts more energy into the reverberant field than a rectangular pattern of the same width, but at the expense of increased floor and ceiling bounce energy. I don't know which is the ideal way for that trade-off to go. Another reason for my choice is, the DDS waveguide is available over-the-counter and comes close enough to what I'd ideally want that I can work with it. The cost of having a custom waveguide (perhaps a bispheroidal) designed and molded and manufactured is beyond reach of my R&D budget at this point. That being said, one day I'd like to do a system with an oval-patterned device, perhaps a bispheroidal. It would look embarassingly like a 4Pi! Duke

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