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Subject: Omni-Pi

Posted by [steve f](#) on Fri, 16 Jan 2009 22:50:21 GMT

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Just wondering. Has anyone tried to build an omnidirectional Pi speaker? I was looking at the Dueval line of speakers and noticed that several of their omnidirectional designs are rather simple. How about applying the same principles to say a 2Pi kit. BTW Morrison Audio does something similar, based on Stu Hegeman's work. Considering how we have some really talented wood turners on the forum, it might be a really cool project.

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Subject: Re: Omni-Pi

Posted by [Wayne Parham](#) on Fri, 16 Jan 2009 23:56:38 GMT

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I wouldn't build an omnidirectional speaker because I don't want omnidirectional radiation. In fact, I've spent 30 years working on designs that are directional. The key thing for me is being uniformly directional. The goal is a wide pattern that covers the listening area, but limited in directions where we don't want the sound. I prefer a fairly limited vertical pattern to reduce ceiling slap and horizontal at 90° because it fits the traditional rectangular listening room. An omnidirectional speaker with uniform spectral balance at all angles would sound great outdoors. It would still be wasting sound energy on directions that weren't useful though. If it were in a room, the sound directed towards rear walls would make ugly interference patterns in the room. So I would snug such a speaker tightly into a corner, forcing radiation into a 90° wedge directed into with uniform spectral balance.

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Subject: Re: Omni-Pi

Posted by [steve f](#) on Sat, 17 Jan 2009 01:52:21 GMT

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Actually directional losses were a concern of mine too. Those manufacturers who tout omnis either stress room treatments or limit their dispersion (Ohm) so they really fire into three quarter space.