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Subject: Re: 4-pi box size !!!

Posted by [Wayne Parham](#) on Tue, 08 Sep 2009 01:56:50 GMT

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Standing waves do have an influence, yes. They don't pass through the cone as much as they provide an acoustic loading for it, similar to the way Helmholtz resonance does. In fact, some speakers use this as a primary tuning mechanism.

Small boxes have standing waves at relatively high frequency, so stuffing is usually sufficient for absorbing them. The larger the box, the lower the frequency where standing waves form. Long, tall cabinets (like towers) also have pipe modes, i.e. standing waves. I used computer models on my larger cabinets and towers to help determine where to put the drivers and port so the internal standing waves didn't adversely affect response. I then verified this with acoustic measurements of a physical loudspeaker.

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