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Subject: Four-pi  
Posted by [Wayne-o](#) on Thu, 15 May 2008 19:52:02 GMT  
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Hey Wayne do you have a SPL freq. graph for the four-pi?

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Posted by [Wayne Parham](#) on Fri, 16 May 2008 05:32:25 GMT  
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Posted by [Wayne-o](#) on Sat, 17 May 2008 06:13:30 GMT  
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Impressive, Thanks!!! Is that four-pi graph with the omega 15 and psd-2002? how about the three-pi do you have a graph on that one too?

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Posted by [Wayne Parham](#) on Sat, 17 May 2008 06:47:59 GMT  
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No, that response curve is of the speaker with the JBL 2226 and B&C DE250. The measurement was done outdoors and the signal used was a stepped sine. No smoothing was applied at all, by the way. I have a hodge-podge of measurements of all my models, mostly pseudo-anechoic that show me behavior through the crossover region but gated high enough there is no usable curve down to the bass. That kind of data is perfect for designing with, because you don't really need to know what is happening down low when optimizing the crossover. You can be comfortable about bass performance just with impedance charts. Even so, people want to see actual response measurements, all the way down to cutoff. So as useful as my pseudo-anechoic measurements are for designing with, they aren't any good at all for publishing spec sheets. To get an accurate measurement of response down to the bass range, you have to make the measurement outdoors. So I'm planning to begin taking all models of speakers outdoors and doing test suites on them for spec sheets. As time permits, I want to get on axis and polar response, as well as harmonic and intermodulation distortion at various power levels. It's pretty time consuming so it won't happen overnight, but in time I'll have a very good set of measurements available. For now, rest assured

that all the speakers in the line are mature designs, optimized for uniform response and low distortion.

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