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Subject: Re: 4 Pi Design Questions

Posted by [Wayne Parham](#) on Mon, 25 Jun 2012 23:12:08 GMT

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initially concerned that his box might have introduced anomalies in the lower midrange. But his measurements tell me that his box is ripple-free in the lower midrange, which is a very important thing to consider when building a two-way loudspeaker that is physically large.

Since Nick kept the woofer/tweeter spacing relationship the same and used the same crossover, I was pretty sure it would act right in the crossover region. So from 500Hz upward, I would have expected the same response.

We all would expect bass to change, but the thing I often point out is that a box this size also needs attention paid to the midrange, since standing waves can line up inside. That's why modeling and measurements are really important in a large two-way loudspeaker like this. So many DIYers use a box modeling program to determine bass response, but fail to look at the midrange. That's an extremely important thing to consider in a large two-way speaker, because of the matter of standing waves.

Nick's speaker looks like it probably sounds pretty darn good. There is no midrange ripple, and that's what we wanted to see.