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Subject: Re: 4Pi plans

Posted by [Wayne Parham](#) on Wed, 20 Apr 2011 14:26:49 GMT

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As long as you keep the tweeter/woofer spacing the same and the cabinet tuning is the same, it will probably work pretty well. The thing is - and I get asked this a lot, about "minor mods" of one form or another - when you change the speaker there are sometimes unintended consequences. The biggest one to watch for in a speaker this size, doing mods that move the midwoofer and/or port, are standing wave anomalies. In a box this size, standing waves line up in the lower midrange. This is an area that is notoriously hard to deal with.

At high frequencies, the insulation absorbs a lot of energy, so the upper midrange is not a problem. Small boxes are easy because their standing waves line up higher in frequency where the insulation is effective. But at lower frequencies, lining the walls becomes ineffective. That's why the plans call for a sheet spanning the cross-section. That helps. But you also want the midwoofer and port in places that reduce the negative impact of standing waves.