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Subject: Re: Studio Pi Speakers variations?

Posted by [Wayne Parham](#) on Fri, 20 Nov 2009 21:38:41 GMT

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People have made various modifications over the years. Some I think are probably fairly "safe", others not so. The Studio Series are probably OK to modify to some extent, as long as the woofer and tweeter are kept fairly close together and you take care with the box size, shape and tuning. I'd probably want the woofer and tweeter in the same plane vertically. Box size can vary somewhat, as long as the Helmholtz frequency is maintained. This is pretty easy to model with a BR modeling program, and you can expect good results.

What's a little harder to understand is the effect of standing waves inside the box when you stretch it to make a tower form factor. That's a convenient shape, but I'd definitely model it with Martin King's spreadsheets, and measure the end result to be sure it's working right. Once a box becomes sufficiently tall and thin it starts to act like a tuned pipe, with standing wave resonances in addition to Helmholtz resonance. In this case, it is important that the woofer and port location be right, or else you can get some pretty serious ripples in response.