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Subject: A bit small, yes?

Posted by [Wayne Parham](#) on Fri, 07 Dec 2001 11:52:27 GMT

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It does sound like that box is a little too small. However, there are a lot of alignments that work well, and some can be shoehorned into small boxes. Generally speaking, subs need to be large but you can make use of a small box if you're willing to make certain compromises. Speakers in small boxes can be made to have response that is reasonably flat and low, as long as the box is tuned appropriately. Check out the alignment called "Underdamped Ported Alignment, tuned low". That particular response curve was made with a rather large box, but you can get a similar response curve in a small box with appropriate tuning. More likely is the case shown as "EBS Stepped Response from ported cabinet with specific peaking", which is attractive since your Dayton motor will be used fundamentally in its lower stepped region, which is flat. You can crossover before the edge of the step where response rises. Granted, this is a lesser efficient part of the curve, but it is a way to get flat response over the intended range from a very small box. For that matter, you can generate an "Overdamped Ported Alignment" using certain tuning in a undersized box. This isn't what you would want for a subwoofer that would be used in large rooms or outdoors, but it is perfect for home hifi use, for subs that will be used in small to medium sized rooms or when corner loaded. Room lift tends to boost the lowest frequencies, and this kind of response prevents room gain from forming a peak.

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