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Subject: Re: JBL sub1500 corner horn?

Posted by [Wayne Parham](#) on Wed, 29 Dec 2004 20:12:39 GMT

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That is a nice woofer. It works well in sealed cabinets, and is not underdamped (peaky) in even very small boxes, down to 0.5ft<sup>3</sup>. However, bass response isn't good unless the cabinet is made larger than at least 1.0ft<sup>3</sup>, where f<sub>3</sub> is 60Hz. In my opinion, the speaker is best suited for vented cabinets between 1.0ft<sup>3</sup> and 4.0ft<sup>3</sup>, tuned to 30Hz. Response extends almost a full octave deeper in this configuration, with f<sub>3</sub> of 35Hz in a 2.5ft<sup>3</sup> box tuned to 30Hz. Just as a point of fact, I'd like to clarify something. There is absolutely no difference in the characteristics of a ported box and a sealed box that has equalization applied to extend response to match. If response is the same, then transient response and group delay are too. Please see the posts in the thread called "Resonance," which was an earlier discussion about this. A good T/S reference is the "Vented Speaker Systems" article written by Brian Davies. So you might consider these things when deciding on your implementation. As for corner woofer placement, Dr. Floyd Toole describes the strengths and weaknesses nicely in his paper, "Loudspeakers and Rooms - Getting the Bass

width of the cabinet. It's actually a simple mod that amounts to the removal of one side wall to gain a little bit of extra length, and it works very well. Those that have done it have been very

increases efficiency. Another thing is that midrange and treble reflections are controlled because every sound source is horn-loaded, delivering energy into the room and away from the walls. Floor bounce and wall reflections are minimized and the directivity of all sound is equal. Most speakers have omnidirectional bass and as frequency rises, it becomes more directional. There are often breaks where the pattern becomes more narrow as a driver becomes directional, and then at a crossover point, the pattern becomes wide again. This causes a non-uniform

their sound is good everywhere in the room.

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