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Subject: Vitavox

Posted by [karlsonkit](#) on Fri, 23 Mar 2001 21:52:02 GMT

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Hi Wayne! Congratulations and thank you for the forum! (and also for measure conversion program). I want to build a pair of cornerhorns for Vitavox speakers: I have a pair of 15" AK-15/40, and also crossovers, S2 drivers and horns. I want to use them in home-cinema system. The center way will be a Vitavox/Klipschorn speaker (Ref CN191), I have one with same speakers. What do you think about compatibility? I have some difficulties to calculate the measures of the Pi-horns. Can you help me? I know some (unverified) T/S parameters: FS: 43.5 Hz Re: 9.57 Ohm Qms: 9.173 Qts: 0.304 Sd:  $8.04 \times 10^{-4} \text{ m}^2$  Cms:  $2.35 \times 10^{-4} \text{ s}^2$  Vas: 7.42 cub.ft (212L) dB 1W/1M :99dB Thanks

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Subject: Pi's with Vitavox motors

Posted by [Wayne\\_Parham](#) on Sat, 24 Mar 2001 00:34:52 GMT

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PiAlign recommends a 2.25 cubic foot box tuned to 54 Hz with either a cylindrical port of 7.2" diameter and 10" long or a rectangular port that's 4.75" x 8.5" and 10" inches long. If you're considering a bass reflex box, then the boxes should be approximately 24" x 16" x 10" - but this includes no offset due to the volume displaced by internal components and the thickness of the wood. I'd expect that your actual cabinet needs to be closer to 28" x 20" x 12". If you're planning a cornerhorn, then the motor cabinet should be 32" x 16" x 8" - again, having no offset for volume. And again, I expect that your actual dimensions after including the displacement of all the parts inside will be something like 36" x 20" x 10". Let us know how they sound.

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Subject: Re: Pi's with Vitavox motors

Posted by [karlsonkit](#) on Sat, 24 Mar 2001 01:24:13 GMT

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Thank you for info! I think I'll try cornerhorns, to get the same kind of response. Friendly yours

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Subject: Vitavox response curve

Posted by [Wayne\\_Parham](#) on Sat, 24 Mar 2001 07:26:47 GMT

I used Carlson's BoxPlot to predict the response curve of your Vitavox speaker in a PiAlign'ed enclosure. So if the specs you gave me were accurate, you can expect excellent performance from these speakers. The response curve looks very good. You can expect nice, flat response from bass-reflex speakers, but it would be even better to put them in a Pi cornerhorn. Cornerhorns operate in approximately eighth space, although they aren't exactly that because you have a ceiling. So they're greater than eighth space at the very lowest frequencies. And they are similar to a conical horn flare - stand back and look at the two walls of the corner together with the floor and the ceiling. Looks just like a huge horn, doesn't it? It's a linear expansion (conical) horn with a very large flare and mouth. Basically, what this does for you is two fold. First, you have the properties of cornerhorn loading, which will boost your bass. Secondly, you have a reflector that will direct the source into the listening environment. This will provide "gain" through the midbass and midrange frequencies, simply by virtue of the fact that distribution is not omnidirectional, but is rather directed into the listening room. Between the two of these effects, you will increase speaker output from the bottom octave through the midrange frequencies. Basically, my conclusion is that I'd be happy with your Vitavox speakers in either a PiAligned bass-reflex speaker or a Pi cornerhorn.

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