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Subject: Re: 7Pi slim

Posted by [Wayne Parham](#) on Fri, 10 Aug 2007 19:00:45 GMT

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Lots of changes there. I'm not sure I can give you much help other than general help. Here are a collection of thoughts, maybe you can make use of them:

by the midhorn and the rear chamber is reflex tuned.

vice. So I think the Alpha 10 in a cabinet this size is a great budget woofer.

frequencies up.

Low frequency performance of a midhorn is largely determined by horn flare size, front and rear chamber size and the electro-mechanical characteristics of the driver. You can model the low frequency performance of a midhorn pretty well with Hornresp.

High frequency performance of a midhorn is largely determined by front chamber size, throat shape and the shape and material of the exposed part of the driver's diaphragm. The voice coil cover is what is usually exposed, so this is what largely sets the upper frequency response of the horn.

Midhorn design isn't rocket science, but it isn't trivial either. Swapping drivers often gives completely different results, more so than you might think from just looking at the drivers.

both harmonic and intermodulation distortion.

requires a low crossover frequency. Because the two drivers are acoustically close, a low-order crossover works well. Summing is good and localization isn't an issue.

You can easily change the woofer/mid crossover frequency, but depending on the position of the drivers, they may not sum as well and they may not sound like a single sound source. It may sound like there is a separate woofer and midrange. This is the risk you take if you bring the crossover point up and the distance between drivers is too great.

about 2". To get summing right, the position of the tweeter must be within 2" of ideal. Depending on the crossover slope and differences between midrange and tweeter circuits (if asymmetrical), the drivers may or may not be lined up with one another. One may be ahead of the other for proper summing. But whatever the case is, you'll have about 2" of "wobble room" at 1.6kHz crossover.

be within 1.5" of ideal. Depending on the crossover slope and differences between midrange and tweeter circuits (if asymmetrical), the drivers may or may not be lined up with one another. One may be ahead of the other for proper summing. But whatever the case is, you'll have about 1.5" of "wiggle room" at 2.0kHz crossover.

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