Subject: Alpha 10 for mihorn?
Posted by Troy Moore on Mon, 14 Aug 2006 11:42:27 GMT
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I see that the theater 7 uses a Delta 10 for the midrange, but I've seen references to the Alpha 10 used for the midrange on the forums and it is even mentioned on the plans. Is the Alpha an acceptable substitute? I've been thinking of playing around with adding a midhorn to my 4's to create a 4/7 hybrid and could borrow the Alpha's from my tower 2's.

Subject: Re: Alpha 10 for midhorn?
Posted by Wayne Parham on Mon, 14 Aug 2006 16:00:51 GMT
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The Alpha 10 can be used in the midhorn. Compare the response curves of the midhorn below. One is a measurement using a Delta 10, the other using an Alpha 10. Disregard the amplitude because microphone distance and preamp gain were different. Both have average sensitivity of

Subject: Re: Alpha 10 for midhorn?
Posted by Chris R on Fri, 18 Aug 2006 21:48:35 GMT
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Wayne, Is the dip around 1.8KHz a horn thing or do both drivers havethis without the horn?Chris

Subject: Re: Alpha 10 for midhorn?
Posted by Wayne Parham on Sat, 19 Aug 2006 04:51:50 GMT
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It's caused by path length differences in the throat. A phase plug could be used to extend top end somewhat, but it becomes an advantage when using a crossover under 2kHz because it serves to increase rolloff.

Subject: Re: Alpha 10 for midhorn?

Posted by Chris R on Sat, 19 Aug 2006 14:51:13 GMT
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Wayne, Just to clear up a few things...The throat in this case is just the baffle board (3/4" deepby ~4" round or square)?The phase plug would be just right in front of the driver's coneto equalize the distances to the throat?The unequal distances are causing destructive interference?Sort of audio parallax errors? Thx, Chris

Subject: Re: Alpha 10 for midhorn?
Posted by Wayne Parham on Sat, 19 Aug 2006 15:14:09 GMT
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That's exactly right. It's like a reverse parallax, in that the listener receives sound from many points across the area of the throat. The distances and wavelengths involved cause destructive interference around 1.8kHz. This is a welcome rolloff though, since the horn was designed to be used to 1.6kHz.Also right that the throat is a 4" square hole cut in the baffle board.