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Subject: Horn phase and time alignment

Posted by [dwkurfma](#) on Fri, 03 Oct 2003 03:40:29 GMT

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Hi Wayne, Waiting for a new software release to drop into production so I'm sitting here with a few spare minutes on my hands. Thought I'd get back to you with a pragmatic response to your question on the HE forum. It has been several years since I last heard a JBL 4430 monitor, but it always struck me as having something very "right". It may have been the matching of directivity between the lf driver and the hf horn at the crossover point; it may have been the overall design of the individual components, especially the 2344 horn; it may have been the low group delay; it may be that these animals really could do a credible job of passing a square wave. Don't know. Just wanted to pass along that in my opinion, this is an example of a design that works well. (Don't know what the actual phase response characteristics were/are. Some interesting details are provided in the following two technical/user documents, particularly in the Time Domain Response section of the Tech Paper. This was first time I had seen the formula for calculating off axis nulls.)[http://www.jblpro.com/pub/technote/tn\\_v3n01.pdf](http://www.jblpro.com/pub/technote/tn_v3n01.pdf)<http://www.jblpro.com/pub/obsolete/443035.pdf> Best regards, Dan

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Subject: Re: Horn phase and time alignment

Posted by [Wayne Parham](#) on Fri, 03 Oct 2003 04:34:06 GMT

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I agree with you in every way. The JBL 4430 was an excellent system, and I like the technical approach used by its designers. There's more good information about it and similar systems in the post called "Baffle spacing, phase angles and time alignment, revisited." In fact, excerpts from the AES whitepaper that described the JBL 4430 were used in this post and a link to the AES paper is included there too.

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Subject: Re: Horn phase and time alignment

Posted by [dwkurfma](#) on Fri, 03 Oct 2003 08:43:03 GMT

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Hi Wayne! Ah yes. I had forgotten about that one. I still have a hard copy tucked away in my folder of goodies. Most of them, other than a few JBL items and my Klipsch "Dope from Hope" pieces are long gone, one of the concessions to 17 years of marriage. JBL reuses this material enough that I had forgotten the original, more detailed discussion. Thanks for reminding me and providing a link to the .pdf. My paper is getting a bit yellow now. Hope you're not still up like I am. Eyes are drooping just a little. Dan