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Subject: "Wings" anyone?

Posted by [granch](#) on Sat, 28 Jul 2007 05:31:26 GMT

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Back in the good old days before stereo, TV and all this other foolishness, when men were men and talking movies were all the rage, the big guns of the theater sound world employed "Wings" on their bass reproducers (usually modified horns?) to extend the low frequency response - presumably by lengthening the path length of cancellation "around the speaker and back". Can anyone elucidate this subject and does it really help (my interest is outdoor very large area sound - organ music for the fishing fleet from shore). My latest scheme is (per channel) 4 A-7s stacked with cones adjacent and with/without "wings". Two of these arrays about 30 feet apart with some sort of subwoofer in the middle complete the stereo source with audience from about 75 ft away up to over a mile. Arrays are elevated on a 20 ft bluff back about 50 ft from the water. The intent is to substantially improve the sound with less stress on the equipment over present design which uses three A-7s per side stacked one over two and no wings or subs.

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Subject: Re: "Wings" anyone?

Posted by [Wayne Parham](#) on Mon, 30 Jul 2007 17:53:49 GMT

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"Wings" are good because they reduce the radiation angle of loudspeakers. This increases SPL within the pattern because it constrains the energy to a focused area. It can also help to improve the response of basshorns and tuned pipes.

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Subject: Re: "Wings" anyone?

Posted by [granch](#) on Mon, 30 Jul 2007 19:06:17 GMT

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I don't see how this could be true at the low frequencies that they are used for. Perhaps I'm just extra foggy today. Try me with other words.

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Subject: Re: "Wings" anyone?

Posted by [Wayne Parham](#) on Mon, 30 Jul 2007 21:17:02 GMT

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"Wings" won't work at wavelengths that are long compared to the panels. For example, a 5 foot panel won't have any influence at 20Hz having 60 foot wavelength. But it will at 100Hz which has

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10 foot wavelength.

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Subject: Re: "Wings" anyone?

Posted by [granch](#) on Tue, 31 Jul 2007 01:32:45 GMT

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I agree with you but still don't fully understand the mode of action. I have built and used sections of hinged 4X8 plywood as stage reflectors, but not as wings. BTW, if you are not now or have never been a member of the Audio Engineering Society (AES), you should be. I would be glad to sponsor you if you so desired.-Dick

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Subject: Re: "Wings" anyone?

Posted by [Ivan Beaver](#) on Thu, 02 Aug 2007 20:21:59 GMT

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The wings only work over a specific range of freq. The bottom of the range is determined by the physical size of the wings. The larger they are the lower the freq in which they will direct the sound. The upper range is determined by the loudspeaker itself. They will only start to help at the freq at which the loudspeaker is losing pattern control and becoming omni. At that point they will help to "redirect" the energy forward. If large enough they can actually help the pattern control of a loudspeaker, although there will be a few issues with discontinuity between the actual horn of the cabinet and the wings, but they will help somewhat.

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Subject: Re: "Wings" anyone?

Posted by [granch](#) on Fri, 03 Aug 2007 00:07:53 GMT

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Thanks! Dick

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