Subject: Re: wave paper
Posted by Marlboro on Fri, 28 Dec 2007 14:18:17 GMT
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Its also worthwhile to post Jim's response to someone who failed to understand the significance of the line array's nearfield environment:".... about the differences in how a near field line array radiates vs. the spreading radiation which would be observed from point sources or for far field radiation. Another consideration with line arrays is from the pyschoacoustical viewpoint. Our ears and head combination provide an exceptional ability to localize sounds in the horizontal plane. Shadowing by the head helps in the horizontal plane."However, the ear has poor spatial resolution in our ability to localize sound in the vertical plane. This poor vertical resolution is attributable to the equal distances from each ear to sources in this plane. Furthermore, the ear will mask signals according to both their time of arrival and the strength of each signal. Thus we observe very little ability to discriminate between signals from different sources in the vertical plane."Bottom line is that you should not worry too much about the arrival time differences in the near field because of the ears lack of vertical discrimination."My point is to design for and listen to a line array in totally the near field if one is in an average home listening room. That type of design would alleviate the concern that you have with your posts which some show differences between near and far field performance. Of course for large venues (think auditoriums) line arrays will have to function in both their near and far fields."-----end quotes-----The description of line array consistently is what is called a line source by the authors who don't understand. Unless the array is large enough to couple with the floor and the ceiling, its not a line array. In my experience, the coupling is essential for the midrange and for frequencies from the mid 100's through the mid 2000's. Above that, I've not experienced any difficulties using my 34 inch tweeter array placed in the center of the seated head listening area. It appears that if the midrange is wide enough(in my case 165hz to 2500hz), and tall enough, it makes the coupling for both the tweeter and bass portions of the array.Marlboro