Subject: Re: Line Array discussion
Posted by Jim Griffin on Sat, 04 Sep 2004 01:40:38 GMT
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Dan,Thanks for checking in and giving us some background about your earlier remarks. I realize that if you read all of the literature on near field line arrays (or choose most any other speaker type if you wish not just line arrays), you likely would not take the time to design or build one. Line array downers (examples, are Lipshitz and Vanderkooy's AES Convention paper from 1986 and more recently Earl Geddes' "Audio Transducers" book dated 2002) would not inspire your confidence that near field line arrays will produce pleasing sound. However, I would urge you to read more of the recent line array articles that I referenced in my earlier reply in this thread. The L-acoustics work is especially noteworthy. If one takes the time to adequately design and build a near field array for home usage, you may find it to be a rewarding experience as I detail in my white paper. There I detail is a specific set of criteria that can result in a pleasant listening event. My goal was to avoid or limit the near field chaos that would be haunting to a less exacting design.

I would like to reply on your reference to the John Meyer's magazine article. First of all, the 'cylindrical waves' statement is true to a degree. But in the near field the vertical wavefront (created from overlapping outputs from the drivers) is concentrated between the ends of the array--very little energy impinges from the floor and ceiling surfaces. The near field energy flow radiates parallel to these surfaces versus the normal spreading flow from a point source. Furthermore, Meyer's own data does support an average of 3 dB per doubling of distance sound falloff if you look at his data in Table 1 for the 4 and 8 meters distances (practical in-home near field distances unless you live in a castle). Furthermore, John's concerns about high frequency extension are difficult to mitigate for a high power pro sound line array but can be easily overcome via readily available small ribbons and such. Bottom line is that pro sound and in-home line array design/usage are vastly different issues. John's article is good magazine material for a pro sound line array audience but can be a misleading interpretation for an in-home near field array. Thanks again for the posting. Jim