Subject: Re: second array already in the works
Posted by darkmoebius2 on Mon, 31 Aug 2009 06:03:56 GMT
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Villain3g wrote on Sun, 30 August 2009 23:45If I remove the entire flange, will this get the c-to-c close enough Dr. Griffin answers your question in the 2nd paragraph of pg 13 in his line array white paperQuote:For the tweeter line very close center-to-center spacing is difficult to attain as very small circular drivers would be necessitated for either the one wavelength or especially the half wavelength criteria. Consider operation to 20 kHz where one wavelength is 17.2 mm (0.68") and a half wavelength is only 8.6 mm (0.34"). Without regard to their surrounding flanges, dome tweeters are available in 25 mm (1"), 19 mm (0.75") and 13 mm (0.5") diameters. Hence, with any mounting flange allowance at all, the one or half wavelength c-t-c criteria are very difficult--if not impossible--to satisfy at 20 kHz. But, if we relax the c-t-c criterion, more secondary lobes would appear in the 10 to 20 kHz frequency range. Fortunately, in this octave the ear is less sensitive (per Fletcher-Munson curves) so any secondary lobes likely would be less audible to the listener. Thus, if one wavelength spacing at 10 kHz is adopted as a compromise, then tweeter spacing would need to be 34.4 mm (1.35") c-t-c apart. While more off axis secondary lobes would be generated in the far field, small flange tweeters are available to meet this dimension. The tradeoff is possible sound degradation from comb lines near 20 kHz.