Subject: Re: Widerange midwoofers, specs, and x-o pts...
Posted by darkmoebius2 on Fri, 25 Sep 2009 00:38:58 GMT
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Quote:I believe that distortion is the most significant measurement...FR is so dependent on so many things from the speakers to the room to actual hearing of the individual to almost everything...But distortion is pretty steady: IT INCREASES AS THE VOLUME INCREASES. Certainly a logical deduction, but...

I wonder if the levels(and types/orders) of distortion between the best of applicable ribbons and domes are as audible as the numbers seem to suggest.

Not to mention, there are other factors in how things ultimately sound. Horizontal and vertical dispersion characteristics seem to favor ribbons in array circumstances i.e. ribbons have limited vertical dispersion and much greater horizontal dispersion giving a greater sense of space and size.

Also, Zaph's tests were done 4 years ago and I wonder if ribbon/planar designs have progressed much since then. Or, at least, manufacturing has evolved to higher tolerances thereby improving performance.

I did find this comment on DiyAudio regarding one person's comment that ribbons tended to sound "light", "bodyless", "boring/no kick": Quote:btw, *most* of the problems kea posed are likely due to an overdamped output because of amplifier pairing with very low output impeadance. Match OR almost double the ribbon's impeadance (i.e. for an 8 ohm ribbon either 8 ohm output or up to 16 ohm output for the amplifier), and you should find that the sound changes rather dramatically in favor of the low mass driver. The tangible air compression (or "kick") IS a product of the drivers mass and its transfer impeadance to the air. The less mass, the less "kick". This is a subjective valuation, BUT generally the lower in freq. you go the more mass your diaprham should have - otherwise it does indeed provide a "lifeless" character (..which incedentally is more accurate to the source but likely less accurate to the event - but this is definitly an art in balancing these two aspects, not a science).

Finally, it seems that everyone is *certain* that the likes or dislikes for ribbons and other low mass drivers are due to harmonic distortion. I find that laughable. Chances are that most people wouldn't even be aware of an increase in 3rd order up to 5% and 2nd order up to 15%. At the lower % levels (below 1%) I would be looking more at 5th order and above to cause any sort of audible problem. So - if you are looking for a problem in most drivers - I wouldn't be to concerned with driver THD unless the higher order (5th+) started moving much past .1%. This doesn't mean that you shouldn't try to minimize THD, but rather that you should be careful in that a reduction in THD may well lead to an increase in distortion that we either cannot measure yet OR can measure, but so far do not understand its importance. The distortion comments are most interesting. But, I wonder what the impedance circumstances of Zaph's tests were, too?