Subject: freq response
Posted by Adrian Mack on Sat, 22 Nov 2003 22:04:07 GMT
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Hey everyoneI was thinking about crossovers and stuff today, and the 2226's used in the Professional 4 Pi systems. This woofer has on-axis response up to approx 1.6KHz before it starts to rolloff. I was thinking about off-axis response. The JBL graph shows for the 2226 that off axis response starts to fall from about 500Hz to 1KHz at a shallow rate, then drops off a bit more steady and fast after 1KHz. It's measured at 45 degrees off-axis, is this on the vertical or horizontal plane? Since off-axis response on the 2226 starts to fall earlier, then wouldn't the power response (polar response) of the 4 Pi Pro's be rather "poor" in this region? At 1.6KHz the off-axis response is 10-12db less than the reference 0db line which is quite a lot. I know this is typcial of heaps of speakers out there which is why I want to talk about it. Does anyone think that it's better to design speakers having each subsystem used only at the low end of its freq range so that its still omni-directional? (seeing as when the speaker is acoustically large compared to wavelength of the freq then its not omni-directional anymore). Obviously horns can have their polar pattern controlled though but I still want to know, direct radiators don't have controlled pattern, etc. So when analyzing freq response graph's to select a crossover point, wouldn't it be better to select one so that better polar response is retained? I know this could lead to needing more subsystems. I just think that off-axis response is important, I guess thats why we're all using horns too (for one reason), though they can loose it too like if theres a curved wall on the horn. What do other people think?Cheers!