Subject: Re: directivity
Posted by rcw on Wed, 10 Aug 2005 23:51:06 GMT
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The directivity I refered to is that of a 500mm. wide rectangular horn with a flared mouth, driven by a 5 inch cone driver, measured with a fourth order crossover connected, the measurement set up is admitedly crude.The paper by Toole can be found in the AES Journal Vol. 34, No. 5 of May 1986.On page 342, under the heading, "Strereo mono series II", Toole states"in the overall assesment of spatial quality the greatest differences were apparent in the monophonic tests, this problem was not so obvious in stereo listening",(the "problem", refering to the narrow directivity of speaker"BB"), after which he goes on to describe peoples comments."BB" a narrow directivity speaker, was said to be, "like being there but looking on," and for AA and E, "you are there", this is all when listening to jazz and choral works, the differenece being that both AA & E have wide frontal hemisphere directivity.On page 343 he goes on to comment upon work by Kuhl and Plantz about how people such as recording engineers prefer directional loudspeakers for work, but tend toward less directional ones in their home.The design criteria from which I took the directivity characteristics of my louspeaker system from come from Kates in the paper,"A perceptual criterion for loudspeaker evaluation", AES Journal Vol.32, No.12, 1984. On page 940 in the section "Floor reflection", he states as you do that a reflection coming from the same direction as the direct sound will have no binuaral echo suppresion, and shows that at typical listening distances will fall in the critical band and, "Thus we would expect floor reflection to be an important cause of colouration".Your loudspeaker system I note has 90 degree vertical directivity, in which case early vertical reflections will be a definite feature.