Subject: Effects of horn loading
Posted by Jerry Parker on Thu, 22 Aug 2002 02:37:05 GMT
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Lets say I have a bass driver that is horn loaded. Its frequency rolloff f3 points are 25 and 120hz. We all know that in situations such as a bass reflex or sealed enclosure, a rolloff starts at a certain frequency, dependant on the front baffle size, as the driver transitions from a 2pi radiating environment to a 4pi environment. Does the horn loading effect of the bass speaker allow the speaker to operate in a 2pi (or even smaller) environment? At 25hz, anechoic, will the driver still be working in its 4pi environment like a ported or sealed, or will it be less, due to the horn loading?Also, my knowledge on horns is VERY limited. I know it decreases the radiating area, focusing it into a given space, increasing sensitivity. Why then will a compression driver without its horn lens on have super high output at its lower frequencies, but as you go to say 10khz, the output drops significantly. I would assume it would be the opposite, and would roll off the lower frequencies while the highs were still as strong. What makes this happen?Also, you see horn lenses saying they provide loading to 800hz, etc. What exactly does that mean?Also, this is not part of the horn loading question, but I don't feel like starting another post. Why are passive crossovers below around 200hz bad? Is it because of the resonance of driver is close? Or is it because the components needed would be rather expensive? All passive crossovers create a loss of power, isn't it typically 3dB? Is that why? If so, wouldnt crossovers in the khz range be bad too? 3dB is twice as much power! Thanks!