Subject: Yes and no.
Posted by Bill Fitzmaurice on Fri, 07 May 2004 20:09:26 GMT
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Yes, a horn is a tapered pipe, but classic tapered pipe cabinets have the driver at the larger end and the exit at the smaller end, the intent being to only reinforce the output in the lowermost frequencies at and just above the quarter-wavelength measurement of the pipe, usually on ther order of 3 to 5dB. This configuration is generally referred to as a Transmission Line or a Tapered Quarter Wave Pipe. To eliminate resonances within the pipe and slow the speed of sound within it to achieve a lower Fp the pipe is filled with dampening material.A rear-loaded horn has the driver at the small end, the exit at the large, and achieves gain on the order of 6 to 10dB on average. It's usually used with wide-range high-efficiency drivers which because of their low Qts values cannot get flat response down to the driver Fs in other box configurations. The rear-loaded horn is usually configured to add gain only to the bass frequencies, generally 100 Hz and lower, to bring those up to the same dB level as the higher frequencies emanating from the front wave of the driver cone. The folding geometry is configured to attenuate the passage of frequencies above the intended pass-band for the horn; in addition, a rear chamber behind the driver prior to the horn entrance (throat) also acts a low-pass filter, to both accentuate the frequencies wihtin the desired horn pass-band and attenuate those outside of it. Horns may have damping material lining or stuffing the rear chamber, but the horn itself is left bare.