
Subject: ?Horn Questions?

Posted by [Cuppa Joe](#) on Fri, 09 Feb 2007 04:47:12 GMT

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I've read that a horn's depth should be at least $1/4$ wavelength of the desired cutoff frequency, while the mouth's circumference should equal the wavelength. The problem with a 90-degree (horizontal) conical horn is that the width increases 2" for every inch of depth added. If I wanted (for instance) a 160Hz cutoff, a depth of at least 21" would be required, which would make the interior width about 42" plus the width of the throat. That's a little too much like furniture or pet housing! Is there some way to obtain a lower cutoff (that is, below 200Hz) in a 90-degree conical horn without resorting to a mouth that wide? I've seen some designs that look like they have 2 conical sections within the horn's horizontal expansion. Examples are the Peavey MB-2 and Rog Mogale's MT122. The first section, attached to the throat, appears to be about $1/2$ the coverage angle of the second section terminating at the mouth. Is this still a conical horn, or is it a crude approximation of another horn type? When the wavelength becomes shorter than the first section's depth, does it beam at that coverage angle?
