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Subject: Re: Conical HF Horn?

Posted by [Duke](#) on Fri, 15 Jun 2007 21:30:47 GMT

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The device I use in my speakers could be called a "90 degree conical horn" or a "90 degree constant-directivity waveguide" (the latter being the more politically correct term in audiophile circles). It's the 10" diameter DDS ENG 1-90 waveguide, which is back in production under DDS's new owners in Texas. The off-axis response declines gently and uniformly out to 45 degrees from the centerline, so the power response is very good. There's a little beaming in the top octave but it's less noticeable than with a direct radiator 1" dome because the pattern doesn't widen much at lower frequencies. I'm not sure that a CD horn really has worse pattern control at its bottom end than other types; I think that a non-CD horn's variable pattern sort of "masks" the breakdown of pattern control whereas it's easier to detect the transition with a CD horn. I like to match up the pattern of horn and woofer in the crossover region as closely as is practical, so I don't use 40 or 50 degree horns, CD or otherwise. All else being equal, smaller and/or shallower horns will have less audible reflections within the horn itself - another argument in favor of wide-pattern horns. Duke

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