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Subject: OS Waveguides to match 12"

Posted by [Martin Goedeke](#) on Wed, 28 Sep 2005 20:28:14 GMT

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So I am in the process of finalizing my OS project to have turned out of solid hardwood (probably Jackaranda) by a fortunate acquaintance and a couple of questions remain unanswered. I am planning on a 90 degree waveguide to match my 12" P.Audio Winner 12S with an intended (active) crossover of 1.2-1.3kHz (a mini Summa without all the sci-fi box-building capabilities of the good doctor Geddes). I am thinking of making the throat separately from the rest of the horn to allow me to play around a little if need be. How big to I make the terminus (assuming a 2" radius round over)? Do I make the waveguide mouth before the round-over the same size of the effective diameter of the 12 (around 10-11") or does the waveguide have to be a little larger? I recon a near match is a big improvement over the RCF H100 horn atm but I might just as well hit the nail on the head first time, though I cannot go much bigger due to limits of the lathe this thing will be tuned on. Any takers?

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Subject: Re: OS Waveguides to match 12"

Posted by [Wayne Parham](#) on Thu, 29 Sep 2005 04:14:30 GMT

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One would be sure of pattern control if the mouth circumference were made at least one wavelength of the lowest frequency used. If this isn't possible, some compromise might be in order. The radiating angle set by environmental boundaries might help, depending on the frequencies involved and the distance to the boundaries.