
Subject: Re: Tapered pipes to horns

Posted by [Bill Fitzmaurice](#) on Fri, 17 Sep 2004 12:55:27 GMT

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The answer is simple: put the opening on the small end and you have a TQWP. Put it on the large end and you have a conic taper horn. The TQWP has gain only in the octave or so above F_p , and that is attributable to its quarter-wave configuration. It has numerous ripples above the F_p , which must be damped out with stuffing. Ideally the pipe output of the TQWP is low frequency only, the higher frequencies eliminated by the damping. The horn has broadband gain, from both quarter-wave and acoustic impedance matching, and while not ripple free it's far less susceptible than a TQWP; you don't damp a horn as that would kill the higher frequencies passing through it, assuming it's a front loaded design. Rear loaded horns usually are folded, and that often serves as a sufficient low-pass filter.
