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Subject: Re: Pattern control and mouth size

Posted by [Wayne Parham](#) on Sat, 10 Feb 2007 03:54:34 GMT

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Most things with wave interactions aren't firm "brick wall" things, but are more fluid than that.

that is essentially a double-slit interference issue and there are single-slit issues too. So it really depends a lot on the size and shape of the horn in relation to wavelength, in addition to the spacing between horns. As for patent infringement, I don't mean to be disrespectful but the Unity horn is not unique in design principle at all. It is multi-driver horn arrangement with drivers offset down the throat, intended to sum properly within the horn, approximating physical offset with electrical phase. There are other implementations of this design approach that preceded the Unity, however, the patent office apparently found some aspects of Danley's implementation to be unique enough to grant a patent on it. This does not mean that any loudspeaker that limits spacing

speakers have this as their goal. I think the Unity patent covers the specific implementation of placing midranges and woofers staggered down the horn wall with a crossover that attempts to stagger phase to match the physical offset. It doesn't cover coaxial horns, not tight pack arrays, not speakers with crossovers designed to provide proper summing, not horn speakers with drivers offset from the apex of the horn. I'm not entirely clear what arguments were made to set apart the Unity from the earlier Renkus-Heinz CoEntrant design that preceded it. It's not something I've been interested in. But I want to reassure you that you can find many ways of building a speaker that keeps spacing to a minimum without infringing on the Unity patent.