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Subject: Re: sounds OK

Posted by [Wayne Parham](#) on Tue, 17 Dec 2002 17:24:55 GMT

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The main thing to consider is difference in distance between the listener and each driver. For this reason, drivers are usually best aligned vertically so there is no horizontal offset (or very little compared to wavelength at crossover). Vertical spacing determines the vertical null angles, setting the width of the arc of constructive summing. There's a little more to it than that, but if you'll keep drivers fairly close and in a vertical line one above the other, you'll be alright. As for port position, this is almost irrelevant. All you're doing is forming a Helmholtz resonator, and the port orientation isn't important for such a device. So this too becomes a matter of aesthetics, although there are a couple things to consider. One is that you don't want the port blocked, and another is that you don't want midrange energies to setup standing waves inside the port. That's why I like having ports in a position where midrange energy is attenuated by insulation, rather than placing them in line with a reflective panel or opening directly towards the woofer.

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