

---

Subject: Re: 2 questions that would clarify our thinking...

Posted by [Wayne Parham](#) on Mon, 18 Apr 2005 04:09:28 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

A sound source that is smaller than a quarter wavelength is basically a point source. Anything that causes multiple sound sources a half wavelength apart or more will cause interference. This can be two adjacent drivers in a multi-way speaker, in the overlap region where both drivers are playing. It can be two drivers in an array. It can be two loudspeakers, not in an array but placed where this occurs. It can be sound produced from a single driver coming from two edges of the cone. Or it can be from a single source and its reflection from a boundary or another outside object. Where there is cancellation at a specific frequency, it causes a notch in response. It's easy to see on a response graph, having the tell-tale notched downward spike. Naturally, what most speaker manufacturers do is to strive to minimize these kinds of interactions. But another approach is sometimes taken, and that is to make the interactions so dense that they tend to average out. If there are lots of nulls spaced close together, that's called dense interference. If dense enough, it sort of averages the sound field.

---