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Subject: Re: 7pi vs 8pi

Posted by [Wayne Parham](#) on Thu, 11 Oct 2018 02:32:32 GMT

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Facing the woofer towards the corner allows it to be acoustically close to the corner. This allows the walls to act as a source boundary - something like vertical ground planes - rather than as reflectors.

The goal is to make the sound source(s) act the same as if they were mounted flush into the wall, or rather into the corner.

Bringing the woofer out to the front of the cabinet makes it far enough away from the walls that they begin to act as reflectors. The wavefront launch is perturbed because the woofer is no longer acoustically close. This causes a self-interference notch in the upper-midbass to lower-midrange.

Speaker placement and wavefront launchAs an aside, this is the condition that flanking subs are designed to correct. That's why I often suggest that mains with traditional forward-facing midwoofers be flanked by "helper woofers" that overlap the mains in the upper-midbass. The midwoofer and the flanking sub form a two-element array which smoothes the self-interference notch from the wall behind the speakers and other nearby boundaries.