

---

Subject: Corner horns & flanking subs?

Posted by [rx7mark](#) on Sat, 28 Mar 2020 04:15:46 GMT

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

---

So working from home, due to the quarantine, and daydreaming/planning my retirement stereo system. I have not really decided between 3Pi, 4Pi, or 8Pi speakers. It will depend on the house we move to after retirement, and the room I put the system in.

But as I was thinking about the 8Pi speakers, I was wondering where you position the flanking subs? I assume corner horns speakers still need flanking subs to fill in the lower octave and create some cancellation of room modes. But I have not seen any pictures of corner horns with flanking subs, so I was just wondering. Front wall, inside the corner speakers, or sidewall just in front of the 8Pi's?

---

---

Subject: Re: Corner horns & flanking subs?

Posted by [Wayne Parham](#) on Sat, 28 Mar 2020 15:38:11 GMT

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

---

Constant directivity cornerhorns don't benefit from flanking subs. The anomalies created by reflections from nearest boundaries when using traditional loudspeakers don't occur in cornerhorn installations. The sound source is acoustically close to the nearest reflectors in the frequency range where the radiation would be omnidirectional if it weren't for the constraint of the boundaries. So the walls act like vertical ground planes instead of reflectors. See the link below for more information.

Speaker placement and wavefront launch

When using constant directivity cornerhorns, place your subs far away from the mains. This is a distributed multisub configuration which provides modal smoothing at low frequencies, up to around 80Hz. You can put a pair of subs in the opposite corners of the room. Or you can put them at adjacent wall midpoints. You can even place them in arbitrary locations, just as long as they are apart from one another and from the mains.

For distributed multisubs, run a summed mono signal like the LFE channel, low-passed at 50Hz to 60Hz fourth-order so that only the deepest bass radiates from the subs. Even with that steep slope and low crossover point there is still some output above the crossover frequency so you can expect good modal smoothing up to around 80Hz. This won't reach the higher-frequency room modes, but they aren't as troublesome as the speaker boundary interference response (SBIR) from nearest boundaries. Mitigation of SBIR is the main benefit provided by flanking subs.

---

---

Subject: Re: Corner horns & flanking subs?

Posted by [rx7mark](#) on Sat, 28 Mar 2020 18:57:19 GMT

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

---

Thanks Wayne, that makes perfect sense and makes the corner horn look even better from a total

cost point of view. Two subs instead of four.

Personally I'd go for the 7Pi's but my wife does not approve of the look, but she is OK with the 8Pi's as long as they are out of the way in corners. That was part of my sales pitch. She does not really like speakers pulled out into the room much, so the corner horns have an advantage there.

---