

---

Subject: Re: Pete's Home Theater Build

Posted by [Wayne Parham](#) on Mon, 10 Jun 2013 22:55:37 GMT

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

---

cornerhorns with the midhorn.

so much of the gain from the flux stabilization ring is unused. But their spectral balance is pretty

model. And if budget is a concern, don't upgrade the woofer in the cornerhorns because it covers less of the band.

As an aside, the midhorn reduces distortion in its midrange, so has less need for flux stabilized drivers. I've used them and they sound nice, but I wouldn't say the difference is noticeable. In fact, I think I prefer the standard ferrite driver in the midhorn, for whatever reason.

I've listened to constant directivity cornerhorns with Delta 10 mids at trade shows, where I have them playing pretty much all day, every day from Thursday through Sunday, and I don't get listener fatigue at all. This has been a sort of litmus test for me. The better drivers always leave me refreshed and the lesser drivers always seem to give me temporary tinnitus at the end of the show. Constant directivity cornerhorns don't fatigue me no matter what drivers are in them, which I attribute to their horn loading.

One of the effects of distortion is listener fatigue. It becomes irritating, and even causes temporary tinnitus. It seems to be a function of SPL/time, in that high sound levels cause irritation fairly soon, but the same irritation can be felt at low sound levels if experienced over a longer period of time. These are my own personal observations but I have also heard comments from many other people that make me believe they experience the same things.

This is what I perceive where distortion is concerned:

1. In main speakers, lower distortion speakers tend to sound clearer to me, all other things being equal. However, the audibility is a function of SPL, and below a certain level, I cannot detect the distortion.
2. At high power level, a speaker with a little more distortion will be more fatiguing, making me want to "turn it down" much sooner than a less distorted speaker.
3. At low power levels, a speaker with a little more distortion will be more fatiguing over a long period of time. At low power levels, I cannot tell that it is going to fatigue me at first, even for a few hours, but after a few days at a trade show, for example, the higher distortion speaker will fatigue me, where the lower distortion speaker does not.
4. In subwoofers, distortion is much less noticeable, but higher distortion tends to sound louder and fatter. (Sorry for the subjective terms, just trying to describe what I hear)
5. Just like the mains, a high distortion woofer will be fatiguing, even if it cannot be easily

detected. I gained these opinions after many years of using my own speakers which often come in a stock or upgraded version. The upgraded version usually has a midwoofer with a shorting ring, creating less distortion. Their response curves are very similar between the stock and upgraded versions, but the upgraded model has lower distortion. And as I said, the differences in woofers are much more pronounced in the DI-matched two-ways than the constant directivity cornerhorns, because the woofer covers so much more of the audio band in the two-ways. In the cornerhorns, it's less of an issue.

---