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Subject: Versions and Upgrades

Posted by [Wayne Parham](#) on Thu, 29 Apr 2010 19:13:41 GMT

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I agree with your assessment of the crossover. The new version (2007) is an incremental improvement over the original, not a night-and-day paradigm shift by any means. The basic design hasn't changed in many years. But having the latest version of the crossover is good, I think, and the changes were small enough that updating is little trouble. The most recent crossover sets the position of the forward lobe more precisely than the original version did. It was a subtle but worthwhile improvement, especially when going to upgraded drivers, looking for the best performance possible.

I think you will notice a larger difference when upgrading the midwoofer. The woofer in a DI-matched two-way loudspeaker like this is very important to the sound quality and overall character of the loudspeaker. It provides not only the bass but also the midrange, truly the body of the sound.

My loudspeaker designs tend to rolloff on the bottom end gradually, which helps prevent them from becoming boomy even in small and otherwise difficult rooms. They also blend well with subwoofers, making them ideal for use with multisubs. I suggest using no high-pass on the mains, so their bass output blends with the subs to provide multiple distributed bass sound sources.

I've noticed a tendency for some DIY'ers to try and push the midwoofer to provide deeper bass output. I can understand the temptation, but I think it is best to relax the bass extension requirement, if high sound quality is the goal. The midwoofer is doing double duty in a speaker like this, providing midrange and bass. Pressing the midwoofer to provide subwoofer frequencies will ultimately impact midrange quality.

Deep bass from a two-way is probably a reasonable goal for a secondary bedroom system, but when going for higher sound quality, I think it makes more sense to align the mains for gradual rolloff and employ a multisub arrangement to simultaneously provide the deep bass extension and smooth room modes. To that aim, most of my loudspeakers have bass response that is slightly overdamped, vented to reduce excursion but with a gradual rolloff something like a sealed box.