
Subject: Re: New topic - Any thoughts on this three way
Posted by [Wayne Parham](#) on Wed, 17 Dec 2003 04:31:02 GMT
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Hi Henry!! I really dig the Martinelli horns too. And my opinions are similar to his too; We sort of come from the same direction on this deal. Basically, there are a lot of valid solutions. The ideal one would be to have three decade-wide subsystems, 20-200Hz LF, 200Hz-2kHz MF and 2kHz-20kHz HF. That's an ideal three-way solution as far as I'm concerned. But actual devices tend to dictate our choices. A 20Hz woofer is pretty substantial, especially if high efficiency, so many times a decision is made to go with a 30Hz or 40Hz solution. This then often allows much higher response from the woofer, and that opens up some design possibilities. Similarly, a 200Hz midrange is also a pretty large device, so sometimes this is shifted up an octave or even more. The trade-off is that as you move up from there, you cut more and more into the midrange band where you split between woofer and midrange. But as you move down from there, your choices of drivers become larger and more limited. A typical solution is to move the midrange crossover to 400 or 500Hz, and crossover to a large compression driver or small cone midrange. Then we look at the tweeters. If you run a subsystem below the tweeter that runs out of steam between 1kHz and 2kHz, then that makes a 1" compression horn an attractive candidate. But if you can crossover an octave or octave and a half higher, then you can use a tweeter that performs better above 15kHz, where most 1" compression horns roll off. So I think you'll probably want to decide what direction you want to go. A lot of this hinges on your choices of components, and you will find some dependencies here. For example, if you find that you really like a particular modern 2" compression horn, then I'd suggest that you should probably only consider woofers and cabinets that will perform well up past 500Hz, at the least. If you are dead-set on a specific tweeter that needs crossover at 6kHz, then a cone midrange is probably not going to work for you. There are lots of good ways to do this. Wayne