
Subject: Any advantage of lower crossover point and larger CD 1.4 - 2" with Four-Pi?
Posted by [Norris Wilson](#) on Tue, 04 Mar 2008 03:08:50 GMT

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Hello, Are there any advantages of a lower crossover point from the compression driver when using the JBL 2226 in the Four-Pi design? Possibly a 1.2kHz, or 800Hz crossover point, versus 1.6kHz with the possible use of a larger diameter format exit CD of 1.4" to 2". Have any of the Four-Pi users experimented in this area of the design? I would love to hear the pro's and con's of your experiences in this area. Thanks Norris

Subject: Current design is the best I've come up with
Posted by [Wayne Parham](#) on Tue, 04 Mar 2008 04:22:10 GMT

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There have been lots of variations and mods, but I prefer it as it is. You could go a little lower in crossover frequency, but if you go too far the midwoofer pattern will be wider than the horn at the crossover point. I definitely wouldn't go under 1kHz. That would make the tweeter pretty loud at 500Hz, and that's just not what I would want from a speaker like this. Remember that the "crossover point" is not a brick wall. The midwoofer doesn't stop playing music above a certain frequency and the tweeter doesn't suddenly come on. There is some overlap. The tweeter's high-pass filter and the midwoofer's low-pass filter are asymmetrical too. So even though we often talk in terms of a "crossover point" like it was some fixed frequency, it's not. Don't look at 1.6kHz as a handoff point, rather, consider it as a ballpark figure. Understand that the midwoofer is almost done at that point but the tweeter is pretty strong there. The two drivers are both playing between 1kHz and 2kHz. When you measure the acoustic outputs of both drivers, they're about equal around 1.4kHz, so it probably would be just as accurate to call it a 1.2kHz crossover as it is to call it a 1.6kHz crossover. But since the tweeter values are closest to what you'd expect of a 1.6kHz crossover, calling it that makes sense too. The point is, don't get caught up in a scalar number when a description of crossovers is much more involved than what can be described with a single number.
