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Subject: Re: crossover point

Posted by [Duke](#) on Thu, 12 Jun 2008 07:14:24 GMT

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I look at the radiation patterns, and try to match them up in the crossover region - in the horizontal plane at least. For example, suppose your tweeter is a 90 by 40 degree horn, and your woofer is 8" in diameter. So the woofer's radiation pattern is roughly 90 degrees wide at somewhere around 2000 to 2500 Hz (depending on the characteristics of that particular woofer). In this case, I'd put the crossover somewhere in that ballpark. If you're using a direct-radiator or bullet tweeter, you won't be able to match up the radiation patterns. In that case, the crossover frequency is less critical than when you're trying to match up radiation patterns but keep in mind that the ear's sensitivity peaks around 3.5 kHz to 4 kHz, so you don't want any peaks in that region or else you'll have a fatiguing loudspeaker. I'd probably want a good 3 or 4 dB or more dip on the tweeter's side of the crossover, this because I place a higher priority on the power response than on the on-axis response. Duke

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