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Subject: Re: Mid to Woofer crossover frequency selection

Posted by [Eric J](#) on Sat, 08 Aug 2009 02:38:06 GMT

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Wayne's answer is most certainly correct, though I'm not sure what he's talking about.

I have a big line array that took me 18 months to design and about a year to build. Electronic analog crossovers, 3 way, with separate amplification for all three ranges: 20 w/ch for total 60 tweeters, 175 w/ch for the total 32 mid, and 350 w/ch for the two 12 inch DVC polyprop 15mm xmax woofers. The cross between the mid and the woofer is 155 hz.

This was arrived at first by looking at the expected ability of the mids to handle lower frequencies using the 24 db/octave crossover, and with the knowledge that I have 16 of them per side to split the total sound up. The have an fz of 85, so with 24 db lopped off per octave, you won't hear much distortion at 155. Also, each speaker is housed in its own 23.5 inch long pvc tube completely separating it from any other speaker with an 1/2 in air space between each tube. The 155hz actually reinforces the bass based on the length of the tube, though at closer to 145hz than the 155 cross.

Secondly, with an analog electronic crossover, I can actually change the crossover frequency and listen. The 155 cutoff was not too high for the woofers, nor too low for the mids. It sounded the best in keeping the midrange clarity up and the woofer distortion down.

Eric J(also called Marlboro on other forums)

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