Subject: jbl 2447
Posted by Adam on Sun, 11 Nov 2007 07:38:07 GMT
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Hi, I just scored a pair of jbl 2447s and a pair of dds CFD 2-60x horns. I was wondering about recommendations for a 2 way system (lf driver and box, crossover etc), would like to cross over as low as possible. Thanks

Subject: Re: jbl 2447
Posted by Wayne Parham on Sun, 11 Nov 2007 14:37:09 GMT
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Run 'em with a 600Hz or 800Hz crossover. It gives you woofer options that you wouldn't have with a higher crossover point, since not all woofers sound good up high. Then again, to be DI matched, you want a crossover point above 1kHz. Lots of choices, pros and cons.

Subject: Re: jbl 2447
Posted by Adam on Sun, 11 Nov 2007 16:32:11 GMT
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By DI matching are you referring to directivity? Is this discussed in your crossover paper?Thanks,Adam

Subject: DI matching
Posted by Wayne Parham on Sun, 11 Nov 2007 22:42:32 GMT
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DI is an abbreviation for directivity index. DI matching is a design philosophy of making crossover near the frequency where the direct radiator directivity collapses to be near that of the horn. It makes off-axis response closer to a straight line, actually a diagonal line because there is still more LF energy since the midwoofer radiation pattern is wider and wider as frequency drops. The reverberent field is more uniform when using DI matched speakers than when using speakers with arbitrary directivity because off-axis response is closer to being flat. I think this is a characteristic that is nearly as important as on-axis response, since reflected energies in the room make up the tonal character of what you hear.

Subject: Re: DI matching
Posted by Adam on Mon, 12 Nov 2007 01:16:38 GMT
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How do you determine where that point is (where the direct radiator collapses)?

Subject: Re: DI matching
Posted by Wayne Parham on Mon, 12 Nov 2007 02:23:28 GMT
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You can measure off-axis response to find its directivity. As a general rule, DI increases as frequency rises and it reaches 10 at the frequency where wavelength equals the diameter of the radiator. The moving surface of the cone (minus suspension) is all that should be considered to be the radiator and the geometry of the cone and any cap can also modify directivity. But as a