Subject: Frequeccy response?
Posted by Tom R. on Sun, 15 Jul 2007 00:29:48 GMT
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When measuring frequency response of a line array, should the mike be at the standard one meter distance from the speaker, or further back at the listening position?Tom R

Subject: Re: Frequeccy response?
Posted by Wayne Parham on Mon, 16 Jul 2007 00:33:17 GMT
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You could measure at 10 meters with 100 watts of input power. This would give you the same decibel value as 1W/1M, and would reduce the problem of path length differences from different points on the line.

Subject: Re: Frequeccy response?
Posted by Tom R. on Tue, 17 Jul 2007 00:54:01 GMT
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Wayne - Why 10 meters and 100 watts? Not sure the test gear can can go up to 100 watts, and 10 meters will be way beyond the nearfield I will be listinging to? Please explain, thanks for responding.Tom R.

Subject: Re: Frequeccy response?
Posted by Rick Craig on Tue, 17 Jul 2007 17:36:09 GMT
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How many drivers and what kind? What measurement gear do you have?

Subject: Re: Frequeccy response?
Posted by Wayne Parham on Tue, 17 Jul 2007 17:40:03 GMT
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When measuring at 10 meters, you'll have less path length differences between the measurement microphone and different points on the line. Using 100 watts, the SPL will be the same as 1 watt would be, when measured at 1 meter.If you want to measure nearfield, you'll have to do something else. You could measure close to each element, but this wouldn't show the effects of summing. Perhaps the best thing to do would be to measure at several places and create polar plots at various distances. Then you would know the response everywhere in 3D space.

Subject: Re: Frequeccy response?
Posted by Tom R. on Wed, 18 Jul 2007 01:58:06 GMT
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8, Focal 5.25" 5K013L's mid bass drivers perside and a single Raven 1 ribbion tweeter, offset to the side.Test gear is an old HP signal generator, paper chart recorder, and Mighty Mike micriphone.Tom R.

Subject: Re: Frequeccy response?
Posted by Rick Craig on Wed, 18 Jul 2007 02:20:41 GMT
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The Raven isn't going to work in this design. You'll need a tweeter than can handle a much lower crossover point. Sorry to bring the bad news but I hate to see you waste time (and possibly $) trying to make this perform well.

Subject: Re: Frequeccy response?
Posted by Marlboro on Wed, 18 Jul 2007 11:38:12 GMT
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Did you already build this bad design, or are you just contemplating it?I know how this can work. I have a really badly designed line array myself, which sounds spectacular. This is probably because I have bad ears.I would ask you if you are using a neutral mic. What is a Mighty Mike?Marlboro

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Subject: Re: Frequeccy response?
Posted by Tom R. on Wed, 18 Jul 2007 11:59:49 GMT
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The speaker cabinets are built, (sealed) drivers installed. I have some finish work to do, grills, and mount the Ribbon tweeter.I do no own the test gear, but a friend does. In a few weeks I will have the spare time to take the new speakers to his house for initial measurements, and am looking for proper test procedures for measuring line arrays.Mighty Mike is a brand name of the calibrated micriphone that will be used for the test - I may not have the name 100 percent correct - working from memory.Tom R.

Subject: Re: Frequeccy response?
Posted by Tom R. on Wed, 18 Jul 2007 12:24:40 GMT
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The Raven is olny a temporary solution as I own them. I hope to purchase an array of ribbons / plainers/ something in the future The midbass drivers are mounted as close together as possible, and the raven is mounted off to the side. I view this as a long term project with many development stages as my knowledge grows and money becomes availabe. Thanks,Tom R

Subject: Re: Frequeccy response?
Posted by Rick Craig on Thu, 19 Jul 2007 00:33:16 GMT
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With a single driver you should pick a measurement distance close to your listening distance. Set your mic height at the center of the tweeter and center it between the ribbon and the woofer line. If the distance is to great to get good response curves then move in a little closer. Choose a topology that will allow you to vary the ribbon level without affecting the transfer function of the high pass section. It may be that the woofer line will be higher in level, if so, try to manipulate the DCR of the low pass inductors to lower the woofer level. Hope this helps.

Subject: Re: Frequeccy response?
Posted by Danny Richie on Wed, 08 Aug 2007 16:38:12 GMT
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Hey Tom, Don't be discouraged. You can make it work just fine if you wire it like a three way design. Cross the tweeter only to the two center woofers. Give them no baffle step compensation. Then let the six outer woofers cover the lower ranges and fill in that baffle step loss. You can use a low order crossover from the outer woofers to the inner two. Here is a good example of this implementation. http://www.rawacoustics.com/item__RA8_Speakers_ARRAY,777.htmlThis worked out really well and sounded really good.Good luck,Danny

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