Subject: Jim and Bill - PT2 array gain
Posted by Allan on Sun, 15 Aug 2004 21:38:08 GMT
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Jim and Bill,I posted this on the DIY site, but thought it may benefit some people here too.I took a basic look at the frequency response of my line arrays today just using test tones and my RS SPL meter. I know it's crude, but it's all I have. I was mostly looking for trends and balance between the subs, the mids and the tweeters. In another thread down below, Jim and Bill are discussing the PT2 array gain issues, and Jim mentions that there will be array gain in the lower regions of the PT2's operation but not in the upper frequencies and from what I've measured here, he's absolutely correct. Right down to the 10khz cutoff:-) Setting the XO to 2.5khz, I have essentially flat response out to 8khz with the tweeters rising about 3-4db over the mids. At 10khz, there's a sudden drop of about 6db and it drops another 4db on the way out to 20khz. I checked both channels and even swapped out a different cd player to make sure the one I had in there wasn't on the fritz. I know, not very scientific and probably not very accurate, but it definitely shows a trend. I was checking about 3 feet in front of the array at about 80db spl.Just an FYI; I don't have any answers or solutions at this point, I'm just relating what I'm seeing. I can bring the tweeter levels flat with the mids at the XO point with my crossover level adjustments (those are really nice to have:-) but the dropoff above 8Khz will still be there.

Subject: Re: Jim and Bill - PT2 array gain
Posted by Jim Griffin on Mon, 16 Aug 2004 02:11:04 GMT
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Allan,Thanks for the measurements. For a passive crossover you can use a contour circuit to equalize the upper octave a bit but at the expense of lower overall response (less sensitivity) for the Pt2 line. If you have tone controls or an equalizer, then you can sweeten the upper octave a bit to your taste. Before you do anything though, I suggest that you listen and decide if you have adequate treble from the array. All too often you might find that a flat response all the way to 20 kHz will sound a little too bright in-room. Jim

Subject: Re: Jim and Bill - PT2 array gain
Posted by Allan on Mon, 16 Aug 2004 02:41:36 GMT
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Hi JimI'm not planning on doing anything about it. I spent 25 years in a manufacturing environment running CNC equipment and I've been an avid shooter all my life...I can't hear jack above 10khz anymore anyway. It's probably why I'm so fond of single driver speakers too. (grin) There's definitely adequate treble and pretty remarkable detail - I'm not missing any cynmbals. I just wanted to let you know you were spot on about the planars.Allan

Subject: Re: Jim and Bill - PT2 array gain
Posted by Wayne Parham on Mon, 16 Aug 2004 04:24:37 GMT
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That's good information, Allan, thanks.

Subject: Re: Jim and Bill - PT2 array gain
Posted by Jim Griffin on Mon, 16 Aug 2004 15:00:41 GMT
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Allan,The frequency response data on the Pt2 indicates very good performance in the horizontal plane--much like a 0.75 inch diameter dome in that it starts to fall-off versus frequency above 10,000 Hz for 45 degrees and beyond off axis. But the vertical axis performance can fool you in that the roll-off is minimal at 2000 Hz but if you look at the off axis angles and increasing frequency you have slopes falling off at fast rates beyond even small angles off axis. The important issue is that the total power that you hear is a combination of both horizonal and vertical axis performance. Hence, any array gain addition versus frequency of the Pt2 is much less than one would measure with cone or dome drivers.Jim

Subject: Re: Jim and Bill - PT2 array gain
Posted by Allan on Tue, 17 Aug 2004 18:17:00 GMT
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"The important issue is that the total power that you hear is a combination of both horizonal and vertical axis performance."Gotcha. That makes sense. Thanks again for all your input Jim - much appreciated.

Subject: You're welcome:-) n/t
Posted by Allan on Tue, 17 Aug 2004 18:18:46 GMT
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