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Subject: L/C/R placement and toe-in  
Posted by [zheka](#) on Sat, 24 Nov 2012 02:46:41 GMT  
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Wayne,

I have the mains aggressively toed-in per your guidelines. It sounds great. Do you have any recommendations for the center? It is the only speaker that is fully on-axis from the MLP. Should I try to tilt it up? Do you ever recommend modifying crossover for the center channel speakers? I ran a pair of the 4Pis in a phantom center configuration until very recently and I am afraid I liked it better than what I am getting now with the left/front/center setup.

Also, how wide do you recommend setting up the mains?

thank you

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Subject: Re: L/C/R placement and toe-in  
Posted by [Wayne Parham](#) on Sat, 24 Nov 2012 14:43:15 GMT  
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Point the center straight forward. The sound everywhere within the forward lobe is the same, so it isn't more shrill on-axis or more laid back off-axis, provided you are within the 90°x40° forward lobe. That's one of the benefits of constant directivity.

I realize there are some other waveguide speakers that do not sound good on-axis, and the recommendation for those is that they not be setup to listen on-axis. That is probably why you

balance is the same everywhere within the pattern.

There is a difference in the center channel content though, and it is sometimes mixed hot with dialog. That's the point of the center channel, so it makes sense. But because of that, sometimes people prefer to adjust the volume of the center channel separate from the L/R mains.

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Subject: Re: L/C/R placement and toe-in  
Posted by [zheka](#) on Sun, 25 Nov 2012 00:50:12 GMT  
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Great, thank you.

How wide do you recommend the L/R set with respect to the MLP?

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Subject: Re: L/C/R placement and toe-in  
Posted by [Wayne Parham](#) on Sun, 25 Nov 2012 01:25:42 GMT  
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The L/R separation is usually dictated by the listening room, but it does set the size of the listening area. Specifically, the left and right mains must be outside the listening area and the forward axes should cross ahead of the listening area.

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Subject: Re: L/C/R placement and toe-in  
Posted by [zheka](#) on Sun, 25 Nov 2012 02:05:17 GMT  
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So the mains would never be too wide as long as with, say, 45 degree toe-in, the axes will cross in front of the listening position? This would allow for potentially very wide angles, significantly wider than what's normally recommended for conventional loudspeakers (20-30 degrees from the center to one of the mains).

I currently have mine at slightly more than 30 degrees, the image is very solid. As I said, I had been running phantom center without any issue. The only concern is that some recordings have a single instrument panned wide (probably wrong terminology here) and then it sounds weird. For example it is difficult to get used to acoustic guitar that sounds wider than the room. I am not sure if this is a symptom of the mains set too far apart or a bad recording.

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Subject: Re: L/C/R placement and toe-in  
Posted by [Wayne Parham](#) on Sun, 25 Nov 2012 16:25:44 GMT  
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That's right, provided your SPL requirements are maintained, you can stretch the L/C/R arrangement as wide as your screen requires. That is really the size limit on something like this - as the room grows larger, there comes a point where the speakers don't provide enough output. Then you would need a different configuration. But as long as your SPL requirement is met, you can go wide with the left and right front mains. This assumes you're using a center channel though - I'd say the limit for a realistic phantom center is about a twenty to thirty foot spread.

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Subject: Re: L/C/R placement and toe-in  
Posted by [zheka](#) on Sun, 25 Nov 2012 19:31:18 GMT  
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Thank you, Wayne. I cannot say enough how much I appreciate your patience and willingness to explain.

Can you take a look at the attached photo?

I was planning to move the L/R behind the screen. I understand now I won't be gaining anything by doing this as far as the SQ is concerned. So the question is how much I'd lose. I'd prefer the behind the screen placement for safety reasons mostly.

If placed behind the screen, the speakers would still be slightly wider than the left/right-most seat in the room. There won't be directivity reinforcement from the sidewall any more, but I can see some benefit from the fact the speakers will be much closer to the back wall.

What do you think?

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### File Attachments

1) [thefrontwall.JPG](#), downloaded 3146 times

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Subject: Re: L/C/R placement and toe-in

Posted by [Wayne Parham](#) on Sun, 25 Nov 2012 20:22:06 GMT

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There is nothing wrong with bringing them a meter or two closer together, provided they are still outside the seating position. I think your main considerations will be the side wall and front wall reflections (which can be mitigated with flanking subs) and the amount of reflection from the screen, i.e. how "acoustically transparent" it is and how much ripple it introduces from self-interference. We discussed this a little bit on the Basic Black thread.

So but the bottom line is I would try it and see how it sounded to me. Since you have measurement equipment, you can even go a step further than seat-of-the-pants listening impressions: You can make measurements and evaluate your different configurations.

Please do report back what you find!

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Subject: Re: L/C/R placement and toe-in

Posted by [zheka](#) on Sun, 25 Nov 2012 21:45:12 GMT

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Thank you.

I have to move the screen forward a little to give enough room to toe-in the L/R as much as I want.

I'd also need to mount my projector further back because in its current position it would be too close to fully cover the screen. It is all doable but kind of PITA. That's why I wanted to get your opinion before committing to the project.

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