Subject: Pi 4s in basic black for Home Theater?
Posted by BigmouthinDC on Wed, 10 Feb 2010 16:30:21 GMT
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Wayne, I've read just about everything I can find on the Pi 4s and I am thinking they might be a super speaker to use in my Home theater rebuilding project. My tactic would be your kits in DIY basic black cabinets.

I currently have a 16:9 set up with speakers around the perimeter of the screen behind acoustically transparent fabric. I plan to move to a 2.35:1 format screen which will be much wider and to go with an Acoustically transparent screen. I would like to upgrade my speakers to ones with more "Authority". My current speakers are 5 year old Audax kits augmented by 10 inch subs on the L/R/

Here are a couple of pics of my setup:

Here is how I was thinking of mounting the speakers and treating the wall behind a 10 ft wide screen (the reference design is the Sandman's theater (SMX screens)

Your expert opinion on this endeavor would be appreciated.

Additional details on my theater space are in this thread:

http://www.avsforum.com/avs-vb/showthread.php?t=683853&highlight=big+mouth+dc

Subject: Re: Pi 4s in basic black for Home Theater?
Posted by Wayne Parham on Thu, 11 Feb 2010 04:23:43 GMT
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That's a good setup, but angle the left and right speakers so their forward axes cross in front of the listener. I'd also suggest positioning the surrounds just behind and the listeners and to each side, angling them in to cross their forward axes just behind the listeners. Also, don't forget to use multiple subs (two to four) distributed around the room. The subs you have right now might work

I know you said you had read a lot about these speakers but just in case you missed these threads, here's a link to some useful information:

Subject: Re: Pi 4s in basic black for Home Theater?
Posted by BigmouthinDC on Thu, 11 Feb 2010 19:20:58 GMT
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Thank you for the feedback and I intend to study all those linked pages. I did read the one on toe in this AM. I did some calculations and determined that I would need to toe in the L/R fronts by about 30 degrees. Their axis would be about 8.5 feet apart behind a 10 ft wide screen.

In this theater the Captains chair is front row center and that is 130 inches to the eyes from the screen. The first officer sits 3.5 feet to the side.

So here are the issues I'm dealing with, First, the screen manufacturer recommends that speakers be oriented flat to the screen as the Acoustical Transparency drops off as the angle to the screen increases.

Second, I will be using a Surround Sound processor with room correction software that adjusts distance to the speaker and sound level variances to optimize the sound field. I am wondering if this will partially reduce the need for the toe-in?

In any case is the Four Pi any more unique in it's requirement for toe in compared to other speakers? I will have the ability to experiment with different orientations and select which one ultimately works the best.

Subject: Re: Pi 4s in basic black for Home Theater?
Posted by Wayne Parham on Fri, 12 Feb 2010 04:21:14 GMT
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As with most things in audio, there are exceptions to every rule. Some rules, the exceptions are rare. Others, less so. This is one of those cases where exceptions aren't so rare, and in fact, I've found my speakers to sound better in some rooms with less than the generally advised 45° toe-in. Sometimes, I set them up with no toe-in at all.

But in general, you'll want 45° toe-in for two reasons. First is the magic imaging described in the threads linked earlier, largely due to self-balancing that counters the Haas effect when the listener moves laterally. Second is one I used to talk about a lot more, but really haven't mentioned in quite as much detail in quite a while. It's arguably even more important though, and is what I used to consider as the sole reason for the benefits gained by this placement/configuration. The directivity of the speakers is such that the pattern generated is pretty uniform within a 90°

horizontal arc, but then falls off rapidly outside that angle, particularly at frequencies above 1kHz. So by angling in the speakers 45°, you reduce the reflections off the side walls. This offers a huge benefit, because lateral reflections are almost always a bad thing.

Subject: Re: Pi 4s in basic black for Home Theater?
Posted by BigmouthinDC on Fri, 12 Feb 2010 04:40:31 GMT
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I probably failed to mention that the side walls are fabric over 1 inch of acoustical treatment (Duct liner) Side wall reflections are somewhat managed in my space.

Subject: Re: Pi 4s in basic black for Home Theater?
Posted by Matts on Sat, 13 Feb 2010 18:00:25 GMT
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I have Pi 4's in a stereo system, and settled on a toed in position some time ago. You can experiment, though, and they won't sound bad if you leave them parallel. I found a little bit better imaging with the toed in position, but I could easily listen to them without the angle and be just as happy. I'd imagine in a theater the "imaging" would be less of a factor. Having Pi4's in the theater will be nice- I have a hard time in some friends' theaters with huge SS amps and speakers that don't quite handle them well (but cost a fortune!)