
Subject: 4 Pi Damping Questions

Posted by [slhijb](#) on Thu, 19 Mar 2020 22:47:22 GMT

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New member here. Hope everyone in the Pi community is surviving the Coronavirus. I'm under self quarantine with a little too much time on my hands. My wife wants me to paint the living room, but am having too much fun researching 4 Pi speakers.

A little unclear on the damping in the 4 Pi. The plans say to, "Use R-11 or R-13 insulation, covering the interior top, side nearest the port, and the rear." This of course is in addition to placing damping in the middle of the cabinet on the cross bracing between the CD & woofer.

QUESTIONS. Just want to clarify that the panel wall opposite the port, and the cabinet floor should not have any insulation damping. Also, for the side nearest the port, is insulation only placed next to the port, or is it supposed to cover the entire cabinet wall? If these areas are left undamped, are not the chances of wall resonances and standing waves somewhat increased?

Would it be beneficial (space permitting) to add a second cross brace directly under the woofer with a layer of R13 insulation to help stamp standing waves? Thanks, Jim

Subject: Re: 4 Pi Damping Answers

Posted by [Wayne Parham](#) on Fri, 20 Mar 2020 15:52:28 GMT

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The rear panel of the cabinet should be covered with insulation, as should the side nearest the port and the top panel. The bottom and the side furthest from the port should be left bare, as should the front baffle. Mount the crossover board on the bottom panel, using a cardboard or plastic sheet as a gasket.

The insulation on the side should be cut so that it reaches the port, but don't bother with the little section of the side panel that's right beside the port. When you've done that, the port is surrounded but there is no insulation in the port, having about 2" between the rear edge of the port and the insulation that covers the rear cabinet panel. It will look like this:

What's more important is the insulation that spans the cross-section. The brace is between the woofer and the tweeter, which means it is also in between the woofer and the port. That location is important, because it is a pressure node inside the cabinet and it also separates the woofer and the port. Bass goes right through it but lower midrange is attenuated. That's the goal of the cross-section sheet.

File Attachments

1) [fourPi_port.jpg](#), downloaded 499 times

Subject: Re: 4 Pi Damping Answers

Posted by [slhijb](#) on Fri, 20 Mar 2020 16:15:21 GMT

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Wayne, you're the best. Thanks for the quick response. Jim
