
Subject: Alternate port shape for Four Pi cabinet
Posted by [tubino](#) on Tue, 03 Jul 2018 15:48:02 GMT

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The Four Pi plans show a single rectangular port of 3.5" x 6", or 21 sq in cross-section. An equivalent area round port would be 5.2". (If $\text{Pi} \cdot r^2 = 21$, $r = 2.59$, $d = 5.2$)

If I wanted the equivalent in two round ports, I calculate 2 ports of 10.5 sq in area, or diameter of 3.66" each. That's close to 3 5/8" inside diameter.

Does anyone see a problem with those numbers? Does anyone see a problem with using two round ports adding up to the same cross-section as the original?

Subject: Re: Alternate port shape for Four Pi cabinet
Posted by [Wayne Parham](#) on Tue, 03 Jul 2018 19:20:10 GMT

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Look at the following two threads:

Altering dimensions

Cabinet design, port placement and internal standing waves
In the second thread, there is a modified design that was tested and so I feel comfortable with it. The builder's name is Nick, and he used two round ports. You might scroll to the beginning of that thread and read all about it.

The issue isn't so much the Helmholtz frequency, although that is important, of course. But that's the easy part. The hard part is making sure the standing waves line up right, and that we don't get a pressure node lined up with the driver or port.

Subject: Re: Alternate port shape for Four Pi cabinet
Posted by [tubino](#) on Wed, 04 Jul 2018 11:16:36 GMT

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Thanks, Wayne! I'm reading through the threads carefully and will go with a proven design.
