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Subject: Re: 3 Pi and 4 Pi comparison

Posted by [Wayne Parham](#) on Tue, 07 Aug 2012 19:17:39 GMT

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ccvogel\_1951@yahoo.com wrote on Tue, 07 August 2012 12:09 Given your concerns about adjustment to box size, I think I might head in another direction entirely.

It is also a goal of mine to recreate the experience of listening to the classic 15-in woofers of the 1950s and 60s. These 7 cu ft boxes were once loaded with JBL D130s - I might go that way again.

As I said earlier, I can sure understand your desire to re-use your original 1950s cabinets. I would probably do the same thing. But please do remember what I said about standing waves, if sound quality is important to you. Because it isn't really a matter of whether the midwoofers are 2226 or D130 or another woofer entirely - what matters is their position in the cabinet. The relationship between source and reflector positions are what matter here. So the port and woofer placement becomes critical.

The position of damping material is important too, especially in larger cabinets. If a piece is installed that spans the cross-section, it will do a better job of attenuating midrange standing waves than just lining the walls.

chrisR wrote on Tue, 07 August 2012 10:43 Wayne, what are your thoughts on reducing the internal volume of those big boxes with rigid foam attached to the walls, under the R13 fiberglass?

I did that for one set when I changed drivers and nothing bad seemed to happen. I've known a lot of people that used false walls inside cabinets so the acoustics of the internal cabinet were not affected by the dimensions of the external cabinet. In a way, it's similar to putting a speaker on a stand or a bookshelf. Nothing wrong with that.

On the other hand, the larger cabinet isn't necessarily bad. It will give more bass extension than the smaller cabinet, and if tuned properly, it might sound great. I think most of us understand the effects of box size and Helmholtz frequency in bass response.

The problem to me is one of confidence. I know how the boxes I've designed will perform because they have been thoroughly tested. I've measured cabinets of similar size that had arbitrarily placed midwoofers and seen 6dB ripple that no amount of stuffing would reduce. Without stuffing, they can give you a 10dB bump. So you just have to be careful of those standing waves in the midrange. You have to test them and see what they do.