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Subject: 7 pi bassbin

Posted by [jeno](#) on Thu, 06 Apr 2006 14:51:36 GMT

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I still haven't decided whether to build the 7 pi's or not. It seems like I'm heading towards the 15 version though, but I have one question regarding the cosmetics: Is it possible to build the bassbin the same width as the midrange horn as long as I keep the internal volume the same by making it a little bit lower? If necessary the sidewalls could also be built diagonally, as long as the front wall are wider. What do you think?

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Subject: Re: 7 pi bassbin

Posted by [Wayne Parham](#) on Thu, 06 Apr 2006 18:46:02 GMT

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(with the 15" woofer). The box size is determined by motor specs. You definitely don't want underdamped bass bins in the corners, better to be slightly overdamped. So box size is important in this regards.

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Subject: Re: 7 pi bassbin

Posted by [jeno](#) on Fri, 07 Apr 2006 12:11:18 GMT

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Maybe it's because of my poor english, but I don't want to mess with the volume of the box. I just wonder if it's possible to make the box a little bit wider and lower, still keeping the internal cubic inches the same. My worry in this regard is whether or not there will be enough space between the bass bin and the wall for the bass corner horn to work properly. There may of course be other concerns too that I don't know about. I'm sorry if I misunderstood your previous post. Thanks!

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Subject: Re: 7 pi bassbin

Posted by [Wayne Parham](#) on Fri, 07 Apr 2006 12:30:52 GMT

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Certainly, you can modify the cabinet but it may not act the same. I suggest you stick with the dimensions shown in the plans.

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Subject: Re: 7 pi bassbin  
Posted by [Chris R](#) on Fri, 07 Apr 2006 14:33:58 GMT  
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> Certainly, you can modify the cabinet but it may not act the same.> I suggest you stick with the dimensions shown in the plans. Wayne, This is counter to your typical response to this question. Is the concern simply spacing to the wall question? I do remember a recent discussion about some trickiness with port dimensions and clearance. I really wish I had corners... Chris

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Subject: Re: 7 pi bassbin  
Posted by [Wayne Parham](#) on Fri, 07 Apr 2006 15:05:30 GMT  
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Some cabinets are more forgiving of modification than others. But really, any time you modify the plans, there is a risk that it will not perform as expected. If it's a simple bass-reflex box and the only thing modified is slight change of dimensions, that's usually OK. If the volume is the same, I expect it to work well, provided there are no standing wave issues that crop up, such as would be

cornerhorn design a little more sensitive is it is designed for uniform directivity over a range of positions. This is true of our matched-directivity two-way loudspeakers too, basically all our models with horns. The smaller speakers with a cone woofer and dome tweeter are pretty simple, designed to sum properly on-axis, straight in front of the midwoofer. But the horn speakers are designed to sum properly everywhere in a 90°x40° pattern, so the crossover and the positions and orientation of each driver are more critical. The bass bin itself isn't too complicated a device. You want it to be slightly overdamped, as a conjugate of room gain. You don't want standing waves inside the box to influence the response. More importantly, you want the physical alignments of each driver to be as designed. The position and orientation of each driver is important, as proper summing on and off-axis relies on the position and directivity of the drivers, as well as the crossover frequency and slope. It all comes together as a system design, and modifications may upset the relationships between components, changing the overall system.

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Subject: Re: 7 pi bassbin  
Posted by [Spinjack](#) on Wed, 12 Apr 2006 13:08:12 GMT  
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This is a discussion I have brought up in the past, as well. At that time, Wayne emphasized maintaining the distance between the driver/port/baffle and the corner. Also, the gap between the wall and the sides of the bass box was important. I have looked at modifying the bass box and modifying the mid-horn. When I calculated the final dimensions of the bass box, it became a very squat structure and would have placed the tweeter very low (which maybe isn't a concern). I finally settled on adding "wings" to the bass box to increase the effective width to match the mid-horn,

giving the speaker a more uniform appearance.

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Subject: Re: 7 pi bassbin  
Posted by [jeno](#) on Fri, 14 Apr 2006 17:41:46 GMT  
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If my girlfriend finally allows to build these speakers, I probably go for the wing idea too. I don't want to risk messing up the bass performance.

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