Subject: Converting 3 Pi to 4 Pi
Posted by Champion on Sat, 02 May 2009 11:02:37 GMT
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Hi Wayne,I have asked about using the JBL2226 on the 3Pi awhile ago, and you mentioned that the box size is suitable but the trouble is to rework the cabinet to fit the driver and the port. I wonder if I can cut a big hole (basically remove almost the whole front panel) and replace it with a new one that can fit the 2226 and a new port? Would that work?I built the 3 pi with the horn placed outside the box so have plenty of space of the mid/woofer.BTW, have you try out the AE 12" driver?Thanks.

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Wayne Parham on Sat, 02 May 2009 16:40:46 GMT
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Replacing the front baffle would probably be the best way to do it, actually. Use a port with the

to 38Hz (8.5" long). The JBL 2226 will sound very nice in this cabinet, virtually identical with the

the top of the box. The woofer and tweeter should be as close together vertically as possible. Are you using a wood horn?About the TD12S, I ordered a pair a week or two ago, so I expect them to

necessary to optimize. if it works out, I'll add it as an upgrade option for that model and for the six

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Champion on Sun, 03 May 2009 14:04:12 GMT
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Thanks Wayne, that sounds good, at least it is possible to use the 2226.No I have not upgrade to the wood horn. At $700 each it is a bit out of my reach at this stage, and the mid woofer upgrade is probably my next step when I can afford, then the wood horn.Thanks again for your help.

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Wayne-o on Sun, 03 May 2009 19:21:37 GMT
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Why don't you have the woodhorn plastic injected molded to save us money and an improvement on the H290 ???

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Wayne Parham on Mon, 04 May 2009 16:55:18 GMT
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Injection molding is an expensive process, feasable only for fairly large production runs. I'd really need to expect about 1000 units to be sold to make it worthwhile, so I'd have inventory for a few years. That's something I would consider, but I'm not at all displeased with the H290.The H290 is a pretty good part. I'm not sure how much attention was paid during its design, if it was on purpose or accident, but whatever the case it does a surprisingly good job in terms of directionality and smoothness of response. It's perfect for this application. From what I've seen, it's better than most of the so called waveguides out there.The wood horn is only slightly better acoustically, mostly in the vertical. Its larger size helps a great deal reducing mouth reflection when used as a stand-alone horn, not mounted on a baffle. That's its intended use, so it was important to make sure it worked well when sitting on top of a cabinet instead of mounted flush on a baffle. It was designed to be a beautiful piece of art that also worked well acoustically. We make it from wood with interesting grains and cut graceful lines on a CNC machine. It really is a work of art as much as anything else.You lose the aesthetic appeal when doing an injection mold. I suppose it could work if the whole cabinet was painted. A highly polished paint job, something like a piano finish, perhaps. That could be a good look. But the whole point is that for baffle mounting - where I see an injection molded horn being used - the baffle helps horn loading and it doesn't need the larger mouth for this frequency range. The H290 is a fine horn for baffle mounting.

Subject: Re: Converting 3 Pi to 4 Pi
Posted by jeff p on Mon, 04 May 2009 20:29:35 GMT
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what about the more efficient td12M?

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Wayne-o on Mon, 04 May 2009 20:31:34 GMT
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As always Thanks, Just wondering, the woodhorn could be made in fiberglass for considerable less start up cost.

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Wayne Parham on Mon, 04 May 2009 20:42:37 GMT
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It didn't model well, at least not as a drop-in replacement, which is what I was looking for. They might be worth looking at, but I'm starting with what I think is probably the best fit for an upgrade path for this design.

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Wayne Parham on Mon, 04 May 2009 20:47:18 GMT
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I would wholeheartedly encourage DIYers to build their own horns using fiberglass, plaster or wood. It's a lot of fun and brings great pride to the owner. They aren't hard to do, just time consuming. My suggestion would be to copy the H290 and just round-over the mouth. Make it larger to allow for the radius of the roundover and keep the rest the same. That makes an excellent horn that is suitable for use outside a baffle. Good directivity and nice smooth sound.

Subject: Re: Converting 3 Pi to 4 Pi
Posted by jeff p on Tue, 05 May 2009 23:25:33 GMT
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oh.I couldn't see any response curves on the website...

Subject: Re: Converting 3 Pi to 4 Pi
Posted by Wayne Parham on Wed, 06 May 2009 01:46:53 GMT
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I don't think they publish amplitude or impulse response or distortion measurements anywhere. I was basing my comments on the electro-mechanical specs, which they do publish. According to those, the TD12S is the best fit for a drop-in replacement/upgrade part. We'll only truly know after I've had time to evaluate them.

Subject: Looking forward to the results of your evaluation. nt.

Posted by RC Daniel on Fri, 08 May 2009 04:27:58 GMT
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Posted by Wayne Parham on Wed, 08 Jul 2009 21:19:54 GMT
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I've spent all week working with the TD12S woofer and I have come up with some preliminary data that looks promising. See the thread below: