
Subject: Pi 3 Theater Question

Posted by [FredT](#) on Tue, 14 Jun 2005 10:17:30 GMT

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I'm starting construction of a pair of Pi 3 Theater speakers and was wondering if it would be feasible to convert them to three-ways at a later date by modifying the crossover and adding the midhorn. If I build them with this upgrade in mind I will place the tweeter on top of the woofer enclosure instead of placing it internally. Two questions: 1) Is it feasible to convert the Pi 3 Theater ported enclosure to a three way?, and 2) Is it ok to place the woofer higher in the enclosure instead of at the near-center position in the cabinet plans so it will have the same proximity to the top-mounted tweeter?

Subject: Re: Pi 3 Theater Question

Posted by [Wayne Parham](#) on Tue, 14 Jun 2005 10:39:57 GMT

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That's a good plan, Fred. What you might consider is mounting the tweeter externally, in a little box. Then you can position the woofer higher in the cabinet. Later, you can add the midhorn and change the crossover accordingly.

Subject: Re: Pi 3 Theater Question

Posted by [GarMan](#) on Tue, 14 Jun 2005 14:24:29 GMT

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Fred, I think that putting the tweeter on top will put it closer to ear-level in a sitting position, and it can be a good thing. Have you consider building the Theater-3 for conversion into a Theater-6 at a later time? I think cabinet volume for the woofer is the same. Gar

Subject: Re: Pi 3 Theater Question

Posted by [Wayne Parham](#) on Wed, 15 Jun 2005 12:48:56 GMT

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model. So I think his consideration of an option for a future upgrade, that's what he had in mind.

Subject: Upgradability of PI

Posted by [GarMan](#) on Wed, 15 Jun 2005 13:36:09 GMT

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Wayne, For me, one of the appeals of your designs is its upgradability, and its too bad there hasn't been much discussions on it. The 3PI to 6PI conversion is a good example. Build a "base" system that performs well as it, but allows you to upgrade for higher performance as needs and funding allows. I had a wonderful experience with the morphing of my original 2PI Towers. Built it on spec at first, then upgraded it to a "Thermionic 2PI". If I had the foresight from the start, I could have built the cabinet to allow conversion to a set of Theater3, which then would have allowed me to upgrade to Theater6. I think this ability for a user to grow with their system can be very appealing. Wayne, any thoughts on putting together an upgrade path for PI systems?gar.

Subject: Three Pi to Six Pi Upgrade

Posted by [FredT](#) on Wed, 15 Jun 2005 19:34:55 GMT

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I was thinking of upgrading to a three-way using the bass reflex woofer enclosure because there's a shortage of corners in my house and I can't take advantage of a corner horn. This might require padding the midrange, but I would still get the benefit of the midrange and woofer operating within more appropriate frequency bands. But first things first - I cut out the panels for the woofer enclosures yesterday. The heat index outside is over 100 today, so I'll wait till tomorrow morning to cut the driver and port holes. I plan to install the tweeters in separate boxes that will sit on top of the woofer cabinets. On a different topic, I'm exposing my ignorance here, but I was wondering what's the rationale for using a relatively small port that appears to be tuned to a very low frequency. I would have expected two 3" ports or a single 4" in a br enclosure with a 12" driver. Is this a result of trial and error, or do the Pi enclosures use an alignment other than the standard bass reflex?

Subject: Re: Three Pi to Six Pi Upgrade

Posted by [Crazy Dave](#) on Wed, 15 Jun 2005 20:40:31 GMT

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Hi Fred, If you have a lot of space and no corners, the Delta 15 is available in a 16ohm versions. Use 2 per side and you might not have to pad! Dave

Subject: Re: Three Pi to Six Pi Upgrade

Posted by [Wayne Parham](#) on Wed, 15 Jun 2005 22:49:13 GMT

alignment is specified by PiAlign, and the values it specifies are not unlike other common alignments. The Delta 12LF is best used in cabinets from 2.0ft³ to 6.0ft³, tuned between 30Hz and 40Hz. EBS cabinets can be a little larger, tuned lower for the bass shelf. But in general, there are a continuum of good alignments in this range. A PiAlign'ed Delta 12LF has a slightly overdamped response, with useable response down to 30Hz. Like the PiAlign'ed Delta 15, this gives bass with gradual rolloff slope and slightly rising response. That makes them perfect for use in corners or as floorstanders against the wall, where room gain might make some speakers tend to sound boomy.

Subject: Re: Three Pi to Six Pi Upgrade
Posted by [FredT](#) on Thu, 16 Jun 2005 01:30:01 GMT
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I already have the Delta 12LF's.

Subject: Done!
Posted by [FredT](#) on Sun, 19 Jun 2005 00:57:06 GMT
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Well, almost. The woofer enclosures are completed and the tweeters are sitting on top. Still need to build the tweeter boxes and veneer everything. Bill Epstein will be glad to know I used 16 ga Royal Cable throughout. These things sound amazingly good with no break in time whatsoever!
3 Pi Theater With Top Mounted Tweeter

Subject: Re: Done!
Posted by [Wayne Parham](#) on Sun, 19 Jun 2005 01:12:29 GMT
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Looks great, Fred! Can't wait to check 'em out, maybe at one of the club meetings. What veneer and finish do you plan to use?

Subject: Re: Done!

Posted by [FredT](#) on Sun, 19 Jun 2005 10:23:49 GMT

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I was thinking about red oak veneer sides with the fronts and backs painted satin black. It will look very much like the XT8 arrays. I'll probably use the same stain, but they will have the oak grain instead of the cherry I used on the arrays.

Subject: Breaking News

Posted by [FredT](#) on Wed, 22 Jun 2005 00:27:07 GMT

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With some breakin time these really are good speakers. I have tried them with a couple of ss amps including a small NAD integrated and a big DK Design Group hybrid integrated plus various tube amps ranging from 2A3's to an pair of 845 monoblocks and an Ella KT88 pp amp.

Interestingly, my favorite of all the amps with these speakers are the Bottlehead Paramours.

These are only the second speakers I have owned that are efficient enough to play at satisfying levels with these 3.5 watt 2A3 SET's (the others were Klipsch Cornwalls which I don't like nearly as much as the 3 Pi's). I won't get around to veneering the enclosures until after the next Houston Audio Society meeting which will be at my house on July 9th. At this meeting we will be listening to these speakers and the new line arrays driven by several SET and PP triode amps including a big Cayin with four 6C33C output tubes, Manley Neo Classic 250 monoblocks, etc. In the meantime I did get around to building some boxes to improve the appearance of the tweeters, which are pictured in the link below.

3 Pi's With Separate Tweeter Boxes

Subject: Re: Breaking News

Posted by [Wayne Parham](#) on Wed, 22 Jun 2005 08:23:35 GMT

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The speakers look great with your addition of the tweeter boxes. I can hardly wait to see them with a veneer and finish. Thanks for keeping us updated.
