
Subject: 3pi nearing completion.
Posted by [cookietruck](#) on Thu, 10 Sep 2009 15:38:27 GMT
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got a large portion of some three pi's done. a few thoughts.
pretty easy construction, there is a wealth of information on the forum here.

I'd recommend to new guys, write down some good notes of all the stuff you read as you come across it.

i've got the boxes pretty much done. gotta add a little bracing and glue the back on. well last night i was just reading on the forum some, searching, killing some time.
i came across a thread i had read before and forgot about
about plywood. seems i used a pretty crappy wood and i remember reading the thread about the good plywoods...
well i'll be sure and add some good bracing to it and hope for the best.
if the boxes fall apart i'll build some better ones.

as it goes now, i've gotta glue in some bracing and glue the back panel. waiting for the crossover components to arrive and i have to figure out how to finish them. perhaps a little stain and some shellac...

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Fri, 11 Sep 2009 00:35:31 GMT
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What drivers did you choose?

I'm interested to see them. Please post pics when you're done!

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Fri, 11 Sep 2009 12:51:10 GMT
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i got the drivers from fred thompson, eminence drivers, psd2002 and delta 12lfa.
for crossover, dayton resistors, jantzen crosscaps, jantzen air wound coils, 14g for the one in series with woofer and 18g for the others.

put the box next to the 1pi towers just to get an idea of size and snapped a pic. just a little bit bigger
i made the box just a bit taller, narrower and deeper.
34" tall, 15" wide, 17.5" deep, 3.88cf.

it's been raining almost everyday since i started working on these things so they're just kinda sitting for now, crossover parts should be here today but it's my birthday so no work will be getting done tonight...

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Fri, 11 Sep 2009 13:10:17 GMT
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Looking good! Happy Birthday, by the way!

Subject: Re: 3pi nearing completion.
Posted by [Psychoacoustic](#) on Sat, 12 Sep 2009 10:28:07 GMT
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That's a beefy looking turntable you have there. What is it?
Hope you get those speakers finished soon and enjoy them.

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Sat, 12 Sep 2009 20:45:18 GMT
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it's still raining but i'm not complaining because we need it.

i did glue the rest of the bracing a little while ago...so that's a little progress

the turntable is an Empire 208 with sumiko arm.
it sounds pretty nice.

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Wed, 16 Sep 2009 12:52:07 GMT
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speakers are all glued up. snapped a pic right before i added some fiberglass to damp and glued the backs on.

the crossover pcb looks like its stressed but its not. it looks like that because i had some high density foam that i hadn't used, small strip. cut squares to stuck to the bottom side of the crossover pcb before screwing down...

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Thu, 17 Sep 2009 02:26:42 GMT
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Nice work on the cabinets and bracing. Should sound great!

Thanks for reporting back with your progress.

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Thu, 17 Sep 2009 03:22:25 GMT
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wayne, in your experience, does the sound change much as the crossover components break in?

used jantzen crosscaps for all but the 20uf, which were dayton caps.

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Fri, 18 Sep 2009 00:48:12 GMT
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No change in crossover components over time (if you use modern polypropylene capacitors) but the woofer does change as it ages. When first out of the box, it is tight and the system is slightly underdamped as a result. A few cycles at full excursion loosens them up, or several cycles at lower power. If you're careful, you can move the cone by hand instead of waiting for break-in from a flea-power amp.

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Tue, 29 Sep 2009 17:34:49 GMT
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well, i've been listening to the 3pi for a week or two now. i have a decware preamp and decware SEP power amp, el84, 6watts.

the 3pi sound nice and even, in my room maybe a little bright on the top end (there is not much carpet in the room at all, hardwood floors, hard walls and ceilings).
even with the lower power tube amp these speakers have enough bass to energize areas of the room, this is noticeable walking around and something i could find almost no hint of from the 1pi towers. they sound to me to be voiced very neutral. just to compare i hooked up an old denon dra635 and the voicing was the same, still neutral and even.

presentation is pretty nice not far back but not real forward either. they image well too.
the eminence tweeter has good detail and is maybe just a bit harsh (could be the room or the fact that the 1pi had a soft dome tweeter and i just need to get used to the different sound).
the woofer sounds pretty good, not real detailed but it still sounds nice. i am considering upgrading to the TD12S but the eminence woofer is liveable so it will probably be a while before i do that upgrade...but the woofer will be the first driver upgrade.

overall i'm happy with the 3pi, i'm enjoying them enough to have not unhooked them to stain and finish yet.

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Tue, 29 Sep 2009 21:36:54 GMT
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I'm glad they're sounding good to you. Thanks for taking the time to report back.

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Fri, 06 Nov 2009 14:37:55 GMT
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enjoying listening to the 3pi, took a while to get around to finishing them. finally did. also added an ohm of resistance to the tweeter circuit...probably my room is pretty bright. was just enough to make the smallest change in voicing.

stained a red color then got a coat of amber shellac. wouldn't hurt to sand them down with a real fine sandpaper and adding another coat...

here is pic.

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Fri, 06 Nov 2009 15:23:19 GMT
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Oh, now those are really gorgeous!

Your dog, popping up into the picture like that really cracks me up. That's a lot of fun!

I hope Epstein sees this. If he does, he'll have to post a new set of pictures of his cat. Muse is not to be outdone, you know.

Your amps look like Zens, are they? I can understand wanting a smidge less treble. The Zens seem to me to be voiced a little upward so if your room is bright too, I can sure understand wanting to tone it down a bit. As kits go, to my ears, the Bottlehead stuff is a little on the heavy side, the Zens a bit leaner. Audio Note sounds to me to run right down the middle.

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Fri, 06 Nov 2009 15:26:51 GMT
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yeah they are decware amps. the taboo which is the 6watt SEP amp and an se84 preamp. yep, no lack of treble.
after adding just a bit of extra resistance everything is very nice sounding.

Subject: Re: 3pi nearing completion.
Posted by [Wayne-o](#) on Fri, 06 Nov 2009 17:18:26 GMT
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Very nice , Where is the port located on the back ?

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Fri, 06 Nov 2009 18:22:01 GMT
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And on that same line, did you happen to model this cabinet with Martin King's spreadsheet, Hornresp or something similar?

Tall cabinets tend to have standing waves line up vertically in the bass range, so it's nice to be

sure the port and woofer aren't on a pressure node. Otherwise you can have spikes in response.

Subject: Re: 3pi nearing completion.

Posted by [cookietruck](#) on Fri, 06 Nov 2009 19:33:43 GMT

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i tried to download kings spreadsheet but i think he took it offline, so i didn't model it. i put the port in the rear just in case i wanted to plug the current one and relocate it.

already forgot the cabinet dimensions
i think it's 34" tall.

do you have a copy of the spreadsheet?

Subject: Re: 3pi nearing completion.

Posted by [cookietruck](#) on Fri, 06 Nov 2009 20:18:13 GMT

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actually. i can get a mic from my brother.

is there computer software that i can use to measure the response curve with?

is there a cd i can get that has a sweep so i could measure from 20-20k hz...

Subject: Re: 3pi nearing completion.

Posted by [Wayne Parham](#) on Fri, 06 Nov 2009 20:36:36 GMT

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cookietruck wrote on Fri, 06 November 2009 13:33i tried to download kings spreadsheet but i think he took it offline, so i didn't model it. i put the port in the rear just in case i wanted to plug the current one and relocate it.

already forgot the cabinet dimensions
i think it's 34" tall.

do you have a copy of the spreadsheet?

I do have a copy of the MJK spreadsheets, as I purchased a commercial license. It wouldn't be cool for me to give it out but I am sure Martin would send you a copy for this project if you asked him. I remember he took down the shareware stuff because he was getting miffed at commercial designers using his code and not paying license fees. But I seem to recall that he put it back up. At any rate, I suggest writing an E-Mail to him and telling him what you're wanting to do. Point to this thread if you want to. Martin is a real approachable guy and I'll bet he'd be happy to let you use his software for non-commercial DIY stuff.

cookietruck wrote on Fri, 06 November 2009 14:18 actually. i can get a mic from my brother.
is there computer software that i can use to measure the response curve with?
is there a cd i can get that has a sweep so i could measure from 20-20k hz...
Try Speaker Workshop. It's pretty good and it's free. There is a Panasonic capsule microphone
amp schematic and tips in the Measurement forum that can help get you started. There's also a
Speaker Workshop support forum on their site.

Subject: Re: 3pi nearing completion.
Posted by [Wayne-o](#) on Sat, 07 Nov 2009 18:03:39 GMT
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My Three-Pi sounds perfect in the voice region, I used the orig. box size But, I ported mine a little
higher around 45 hz. I am using a solidstate amp so the tone may be different. Box size
20x30x14.. After modeling on Boxplot and other programs I have found that a increase in box size
may start to add unwanted Boom. The 1 or 2 Pi's have a sweet and silky treble that is sweet, But
the 3-Pi's sound more true to life. I wouldn't say the 3-Pi's sound better but, they are higher fidelity
and of course will put out more Dbs with bigger Amps. I differ a little on the crossover values But,
this may be due to taste and Vertical position. I have tried different woofers like the kappa Pro
15lfa and they did not sound as good in the Voice range. I like the tower design and will try it with
the 3-Pi drivers and crossovers soon. Thanks for the great pix's.

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Sun, 08 Nov 2009 16:07:34 GMT
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i modeled the speakers with something King sent me for port placement. a few very small bumps
that might be as much as 2db i guess. that was leaving the stuffing as default on the spreadsheet.
adjusting the stuffing to something a little thicker makes the response curve very smooth.
so looks like i got lucky on the port placement

Subject: Re: 3pi nearing completion.
Posted by [Wayne Parham](#) on Sun, 08 Nov 2009 16:20:07 GMT
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That's excellent! Makes you feel better, doesn't it?

Now you know the fruits of your efforts are not only aesthetically pleasant but also acoustically
right. That's the goal!

Subject: Re: 3pi nearing completion.
Posted by [cookietruck](#) on Fri, 13 Nov 2009 19:31:56 GMT
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yeah i'm glad i could confirm the acoustics of the speakers, i thought they sounded right but we know how that can go...
