
Subject: 4 Pi and 3 Pi Subwoofer

Posted by [Quiet_Storm](#) on Wed, 03 Aug 2011 02:46:56 GMT

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I'm planning on ordering a pair of 4 Pi speaker kits and a pair of 3 Pi subwoofer kits soon. This afternoon I happened to be at Home Depot, so I grabbed some MDF. The 1/2" looked like about the right thickness, so that's what I picked up.

Now looking on the forums, it looks like 5/8" is the recommended thickness. Home Depot looked like they only had 1/2 and 3/4". Should I stick with the 1/2" I bought, swap it for 3/4", or find somewhere with the 5/8"? I might be over thinking this, but I'm ramping up my research on this new DIY tube amp and speaker setup.

Subject: Re: 4 Pi and 3 Pi Subwoofer

Posted by [Wayne Parham](#) on Wed, 03 Aug 2011 03:55:44 GMT

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Get 3/4" wood. That's what is specified in the plans for both models you've asked about.

Subject: Re: 4 Pi and 3 Pi Subwoofer

Posted by [Quiet_Storm](#) on Wed, 03 Aug 2011 04:07:48 GMT

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Thanks for the quick response Wayne! I'll swap them out sometime this week. I guess that's what I get for jumping the gun..

Another question.. I'm looking to build sub amps soon too, and I'd prefer to keep everything DIY. I was intrigued by the Selectronic ProFet sub amps that you're running. Did you do anything special to navigate through the French site or get them shipped to the US? I made my way to the checkout, and then I got a little confused.

Subject: Re: 4 Pi and 3 Pi Subwoofer

Posted by [Wayne Parham](#) on Wed, 03 Aug 2011 04:40:17 GMT

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I used to stay in regular contact with the owner of that site, Eric Mainardi. I haven't heard from him in a couple years though.

My suggestion would be to write to Selectronic and ask about ordering. Ask for Eric, if he's still active in the company, he will be most helpful.

Subject: Re: 4 Pi and 3 Pi Subwoofer
Posted by [Quiet_Storm](#) on Sat, 13 Aug 2011 22:01:05 GMT
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Thanks I'll see if I can get in touch with him.

I just bought some kits for some upgraded 4 pis (drivers, inductors, and resistors) and some 3 pi subs. I'm pretty excited!

Subject: Re: 4 Pi and 3 Pi Subwoofer
Posted by [Wayne Parham](#) on Sun, 14 Aug 2011 02:17:10 GMT
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A little eye-candy to fan the flames...

Subject: Re: 4 Pi and 3 Pi Subwoofer
Posted by [Bill Epstein](#) on Sun, 14 Aug 2011 11:36:51 GMT
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Up on the stands, the 4s look about 15" tall!

Subject: Re: 4 Pi and 3 Pi Subwoofer
Posted by [Quiet_Storm](#) on Sat, 27 Aug 2011 05:57:06 GMT
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My kits arrived. I need to get my act together with building the cabinets. I'm building them out of 3/4" mdf with cherry veneer to match the cherry surround on my Rega P5.

I'll be veneering some shelves (for a flexy-rack) first, but I'll still be very new to veneering when I tackle these cabinets. This is shaping up to be a fun challenge.

When I opening the boxes today, I was disappointed to see that the inductors on the crossovers

shifted around some. I think I have them back in position, but I feel like I should add some more adhesive. Wayne, what do you typically use for this? I'm assuming the inductors should not touch the PCB traces. Some of the inductors are now in contact with the traces, but I can space them appropriately when re-adhering them.

I'm planning on documenting my progress. If anyone is interested in how things turn out, I can post my build report here.

My planned setup is:

Rega P5 > Dynavector 10x5 > Dynavector P75 MkII > Bottlehead Extended Foreplay 3 > Bottlehead Paramount 2A3s > Pi 4s

plus an active sub crossover coming off the Extended Foreplay (thinking about using Wayne's recommendation: <http://audioundtable.com/Semiconductor/messages/359.html>) > FET amps (maybe the Selectronic ProFets) > Pi 3 subs

I'll also have a Squeezebox Touch and cheap Yamaha CD player feeding into the preamp.

Oh and there's a custom power conditioner using Felixes (<http://www.audiocircle.com/index.php?PHPSESSID=2qjtmqcrd9b1ij5gj3aad2j41b8aqk5g&topic=25757.0>). I could write a whole report just on this guy.

Needless to say, I have my hands pretty full for the next couple months. I'm still buying and building a lot of this. I'm very excited to see how much this setup blows my Logitech Z-5500s out of the water.

Subject: Re: 4 Pi and 3 Pi Subwoofer
Posted by [Wayne Parham](#) on Sat, 27 Aug 2011 14:24:43 GMT
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I may have shipped those too soon. I usually assemble the crossovers, apply the silicon "cushion" adhesive and wait several days for them to cure before shipping. But I had been extremely busy the last few months and getting backlogged. So I think we shipped yours too soon.

We use a clear silicon adhesive. Not a lot to it really, we just want a cushion for the coils. The thing is, it really takes a week for it to cure, sometimes longer. It films over in a day, but the center is still mushy for a long time, so the blob is still somewhat weak for a while. After it has fully cured, it's rigid and strong.

Subject: Re: 4 Pi and 3 Pi Subwoofer

Posted by [Quiet_Storm](#) on Sun, 04 Sep 2011 10:12:43 GMT

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I'm getting close to cutting all the mdf, and I have a few questions:

- 1) On the subs, I was scratching my head on how to make the tuning ports. Then, I realized I chucked the tubes because I thought they were part of the packaging. Oops Is there a place I can find these or can I order a pair from you?
- 2) The plan right now is to not recess any of the drivers or the horns. It looks like that's how yours were done, but it's hard to tell in the image. What's your opinion on not recessing? If I don't recess, should I still use some shower pan liner as gaskets? If I did recess, do I need to modify the depth of the cabinet?
- 3) On your 4 pi, it looks like you painted inside the tuning ports and may have put a small amount of veneer in the beginning of the tuning port. That looks great. How did you pull off this effect? Did you also paint the insulation behind the tuning port?
- 4) Some people have used strips of wood to brace the edges of their cabinets. If I do this, it shouldn't affect the sound, right?
- 5) Some people have made their 4 pi front baffles 18 1/2" and then glued the side baffles on the outside of this 18 1/2" (adding to 20" total). I'm thinking that the dimensions you give on the front page of the instructions (26 1/2" x 18 1/2" x 14 1/4") are the total outside dimensions and that I can overlap the edges in any pattern that I like. My current plan is 2 each of 26 1/2" x 18 1/2", 26 1/2" x 12 3/4", and 17" x 12 3/4". Is this the correct thinking?

Thanks!

Subject: Re: 4 Pi and 3 Pi Subwoofer

Posted by [Wayne Parham](#) on Sun, 04 Sep 2011 16:47:51 GMT

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Answers by numbers:

1. The round ports are thick cardboard tubes often sold as mailer tubes. You may be able to find them locally at an office supply or drafting supply store. You can also order them online. See the link:

mount and get the same performance. It's just done for aesthetics. Some of my personal speakers have been routed to flush mount the drivers, others haven't. The only caveat is you must do both - if one drivers is routed flush, the other must also be. This keeps their depth the same relative to one another, i.e. distance from the listener.

The gasket is an extra measure, not always needed. If the surface is very flat, then the speaker will probably seal without a gasket. This is especially true of the Eminence midwoofers, which

have a build-in gasket. However, the JBL woofers use an O-Ring for the seal, which comes packages with the woofer. It's really cool and all, but I prefer a traditional gasket for them, and make them out of PVC, as you've noted, the same stuff shower pans are made from these days. Same for the horns, they're usually flat and true and will seal against a flat surface but it is good to use a gasket behind them.

3. I usually paint the inside of the ports, definitely the cardboard tubes. They look great that way. Usually I pain them black but have done some brown and some grey. The rectangular ports can be veneered to match the baffle, Just veneer the wood parts used to make the port before assembly, it's a piece of cake that way.

4. You want to install a cross-brace between the woofer and tweeter. This is mentioned on the last pages of the plans, in the "General Construction Tips" section. It can be made from 1x2 or spare wood stock cut to that approximate dimension. Just run one front to back and another side to side. They should fit snugly, but not so much they bulge the panel. Just a little bit of preload. This also serves as a place to attach the insulation that spans the cross-section, also mentioned on the "General Construction Tips" page.

Note: This cross-brace is only required on physically large cabinets, bigger than about 24". It is

5. The dimenisons shown in the plans are outside dimensions assuming a single panel of the thickness shown in the plans is used to build the cabinet. If you add a panel to the front for aesthetics or to provide a CSD layer, it should be made accordingly larger. Essentially, the "inner cabinet" would be built with diemsnions shown in the plans and an added panel added over that, perhaps to cradle a grille or for whatever reason.

Subject: Re: 4 Pi and 3 Pi Subwoofer
Posted by [Quiet_Storm](#) on Fri, 30 Sep 2011 05:03:43 GMT
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Making great progress. A little cherry veneer and the 4 pis will be done. Thanks for the help along the way Wayne!

I know other people have said this, but holy cow these speakers are huge! I figured 26.5" is around 2' and 2' isn't that big. Boy was I wrong. The depth in particular surprised me. I doubled up the front baffles so that made them an extra 3/4" but even the standard design would be huge. I don't think anyone will enter my apartment without commenting on their size.

I'll have to post some pictures when they're done. Recessing the drivers was definitely the right idea. A little more work (especially the horns), but with a router, a few homemade router jigs, and a dremel for the corners of the horns, it wasn't too bad.

So one last question.. at some point I plan on building some stands for them. Any recommendations? I'm thinking about installing some t-nuts before I veneer them, so I can bolt on

the stands later. How have other people done this? Can the 4 pis just sit on the stands or do people bolt them?

Subject: Re: 4 Pi and 3 Pi Subwoofer

Posted by [Wayne Parham](#) on Fri, 30 Sep 2011 05:17:18 GMT

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I use a cradle approach - more like a rear lip for the speaker to rest against. A gentle 3° - 5° tilt-back, adhesive rubber feet on the platform for the speakers to sit on and they'll never budge.
