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Subject: Pi speaker arrangement.

Posted by [johnnycamp5](#) on Mon, 08 Apr 2019 00:16:21 GMT

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I had been hinting about finishing our basement for a long time, and I finally did (more or less). "Finished" may be the wrong word, perhaps "rough man cave" is a better description lol. Of course there are a few things left for me to do. It is not a particularly large room (14.5' wide x 28' long x 8'8" high) but we are enjoying it just fine.

Tonight my son and I managed to get the 4pi's toed into the front corners. I hope all you Pi speaker fans can guess what's going to go in their place??

The center table under the tv is a sub, and so are the two end tables by the gold colored chairs. The final sub, which is shaped like the center sub under the tv, fits nicely under the bottom stair landing, but we haven't gotten it there yet.

I'll post up some new pics once the 7Pi's are in place...

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#### File Attachments

- 1) [IMG\\_0366\[1\].jpg](#), downloaded 867 times
  - 2) [IMG\\_0367\[1\].jpg](#), downloaded 861 times
  - 3) [IMG\\_0368\[1\].jpg](#), downloaded 753 times
  - 4) [IMG\\_0370\[1\].jpg](#), downloaded 863 times
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Subject: Re: Pi speaker arrangement.

Posted by [Augustus](#) on Mon, 22 Apr 2019 16:20:08 GMT

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That looks like a sweet setup. I think basement acoustics can be a nightmare, so good on you for figuring out how to make it better.

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Subject: Re: Pi speaker arrangement.

Posted by [johnnycamp5](#) on Mon, 22 Apr 2019 17:57:07 GMT

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Thanks.

I spray foamed the entire underside of the decking (ceiling between floor joists) with diy open cell foam, then installed the ultra-touch (cotton) insulation over that. With the entire ceiling acting as a broad band absorber, It doesn't sound bad at all. Even (like you said) with the unforgiving concrete walls.

I should really have subs flanking the mains, but I didn't bother since the 7-pi corner horns will be going in those corners any day now.

Also, it's surprising how good these 4pi's sound, shoved into these corners temporarily.

I will probably locate a sub under the bottom stair landing, and another at the opposite corner. This way, there will be four different bass sources in the room, which should help smooth bass response.

Once I get everything finalized, I will get to taking some measurements and perhaps post them up here.

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Subject: Re: Pi speaker arrangement.

Posted by [Barryso](#) on Mon, 22 Apr 2019 20:39:35 GMT

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Hi,

That's going to be a great room. The 7 Pi's with subs for the rear are amazing speakers. Big sound and absolutely effortless.

I've sent you an email regarding your 4's.

:)

Barry

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Subject: Re: Pi speaker arrangement.

Posted by [Newjack](#) on Tue, 30 Apr 2019 16:44:05 GMT

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Wow, nicely done! It looks great. How long did getting all of that set up take? I keep trying to rearrange my basement into something suitable but I'm never satisfied. :lol:

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Subject: Re: Pi speaker arrangement.

Posted by [johnnycamp5](#) on Thu, 02 May 2019 23:02:59 GMT

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Thanks.

How long did it take? About 18 months :lol: .

Here's the short (long) version-

I like to enjoy my home projects and/or hobbies in dribs and drabs, moving from one to the next on a whim, or when I get bored.

I rarely start something, and stay on it till complete, I enjoy bouncing around.

This tends to leave several unfinished projects, but it can also bring the satisfaction of many of them finishing (nearly) all at once.

I also tend to do things out of order.

My basement project started with my requesting plans from Wayne for his 7pi corner horns, and buying a pair of Bruce's mono blocks from at Oddwatt Audio.

These parts would be the foundation of my new man-cave system.

I actually completed the amps and put them to use in the upstairs living room. I then got around to assembling the mid horn flat packs and mounting the woofers and spacers.

Then on a whim, I decided to start clearing/organizing the cellar for the new man cave.

It had always been used for storage.

When I removed all the boxes and junk (lol) I discovered some bad news, the foundation walls were badly cracked, even being pushed in (from the earth) slightly in places.

Years ago I had noticed what appeared to be hairline cracks, but they had gotten much worse.

The house was built in 1904.

I realized I had to fix this, regardless of whether we wanted to stay in the home, or sell.

Lucky for me I'm a mason by trade, and my good friend Dave is an excavator (Lounsbury excavating INC.)

We removed approx. 60 yards of dirt, and replaced the foundation walls one section at a time, with reinforced concrete.

This was a bit stressful, after all, there is a house overhead lol.

The new cellar is almost 9' to bottom of joist, quite a bit taller than the old one, hence the 60 yards of dirt removal.

I finally worked on the mid horn box (the enclosure around the horn flare) this week (after a year or so), they're almost done.

Then just the bottom bass bin.

Ive also got to swap in some Jantzen Superior Z caps onto the 7pi crossovers that Ive had kicking around for a long while.

the problem is their size... they are HUGE compared to the standard Z caps, but I think I can make it work....

All that just to say I have them!

Perhaps ill put the crossovers in a plexiglass box for bragging rights LOL.

I'll try to update with some pics once the corner horns are in place.

Subject: Re: Pi speaker arrangement.

Posted by [johnnycamp5](#) on Sun, 19 May 2019 13:57:25 GMT

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I finally got to working on the mid horn enclosures.

For a year or so they sat in my garage under a moving blanket like this (while I slowly rebuilt my homes foundation)-

A few weeks ago I finally got to creating some enclosures-

Last week I painted the MDF with oil base primer-

I just have to add some final finishing touches (body work lol)-

Meanwhile, Ive been using the 4pi's tucked into the front corners both for movies and music-  
Its been set up like this for a couple of months now.

Although I had previously mentioned that I had not set up flanking subs, in this current arrangement (to my ears), they really are not needed.

It sounds to me like things have tightened up and become more cohesive in the lower mid-range, (200-500 Hz?) which is above the range of the flanking subs, but again, just a subjective observation, no measurements of proof.

I look forward to finally getting the mid horns completed, I imagine they will sound even better.

When they are completed, I will (temporarily) sit them on bass cabinets that are the same shape (like a wedge) that I had built/used in our living room, until I get the time to build the proper, bottom (7pi) bass bin.

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#### File Attachments

- 1) [IMG\\_0076.jpg](#), downloaded 674 times
  - 2) [IMG\\_0415.jpg](#), downloaded 684 times
  - 3) [IMG\\_0417.jpg](#), downloaded 669 times
  - 4) [IMG\\_0416.jpg](#), downloaded 651 times
  - 5) [IMG\\_0366\[2\].jpg](#), downloaded 653 times
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Subject: Re: Pi speaker arrangement.

Posted by [Wayne Parham](#) on Sun, 19 May 2019 15:48:01 GMT

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Looking really good! Awesome work!

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Subject: Re: Pi speaker arrangement.  
Posted by [johnnycamp5](#) on Thu, 06 Jun 2019 00:20:24 GMT  
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Thanks Wayne.

I've made a bit more progress on the mid horns.  
I chose to router a 1/4" deep groove out of the mounting plate, to compensate for the woofers maximum excursion, instead of using the spacer.

I also finally got to installing the Jantzen superior Z caps on the crossovers.  
The caps are quite a bit bigger than the standard Z's, but I managed.  
You can see I had to turn the Erse coil on it's side...

#### File Attachments

- 1) [C10DFADC-EDE0-4D9B-B380-B5B4D96B0D99.jpeg](#), downloaded 623 times
  - 2) [76339F8B-2D3C-453A-871E-8E7C51625EE6.jpeg](#), downloaded 661 times
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Subject: Re: Pi speaker arrangement.  
Posted by [Wayne Parham](#) on Thu, 06 Jun 2019 02:28:02 GMT  
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Super groovy cool!

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Subject: Re: Pi speaker arrangement.  
Posted by [Barryso](#) on Thu, 06 Jun 2019 11:51:07 GMT  
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Nice job on the mounting plates. Don't remember seeing that trick done before.  
You're going to have an amazing room.

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Subject: Re: Pi speaker arrangement.  
Posted by [johnnycamp5](#) on Thu, 06 Jun 2019 22:07:26 GMT  
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Thanks.  
it's really not necessary to do it that way, and simply installing the spacer would have been much easier.

I was concerned about increasing the volume of the compression chamber, but with some reading on the forum, I discovered that using the spacer does nothing toward changing the response of the mid horn.

Also, If you think about it, routing a round groove the way I did also increases the chamber volume, so why not just use the spacer?

Sometimes I just can't help but do things the hard way lol.

The one advantage is it helped keep the cabinet enclosure on the back of the horn a bit further away from the edges of the woofer magnet.

I'm getting closer to being ready to pull the waveguides and woofers out of my 4pi's for using to complete the 7's,  
but the thought of pulling them apart makes me a bit sad.

Kind of like saying farewell to an old friend....

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Subject: Re: Pi speaker arrangement.  
Posted by [johnnycamp5](#) on Fri, 07 Jun 2019 19:55:03 GMT  
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Hey Barry,  
I tried to send you a PM about the 4pi's.  
Please let me know if you received it.

I'm having a hard time knowing whether or not it went through lol.

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Subject: Re: Pi speaker arrangement.  
Posted by [Barryso](#) on Sat, 08 Jun 2019 23:07:48 GMT  
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Glad you posted here as the message went through but there was no notification.

Reply sent. It is hard to know if the messages go through sometimes.

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Subject: Re: Pi speaker arrangement.  
Posted by [johnnycamp5](#) on Thu, 13 Jun 2019 22:44:05 GMT  
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I have finally completed the mid-horns (for the most part).-

All that's left is for me to build the bass bins.  
I'm really chomping at the bit to hear these!!

The trouble is- I am finding it hard to disassemble my beloved 4pi's for this build!!

What's more..... I own another 4 jbl 2226's.  
but a good friend is currently using them, and will be for some time.

I do have 4 eminence lab 12 subs on hand.  
Perhaps I'll sit the mid-horns atop those for a while, till a I re-posses the jbl's.

I'm certain I would have to bi-amp though, as they are only 89db sensitive (and 6ohm).

I also doubt they would sound as good north of 100hz....they are sub-woofers after all, not mid-woofers,  
but I'm just dying to hear these mid-horns!!

#### File Attachments

1) [63CCBDE9-B7CF-453D-B8EB-86A27A1AF4CD.jpeg](#), downloaded 423 times

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Subject: Re: Pi speaker arrangement.  
Posted by [Barryso](#) on Fri, 14 Jun 2019 12:27:44 GMT  
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Hi John,

Great looking horns. You're going to have a great pair of 7 Pi's.

Years back I recall there were folks on this board that didn't have proper corners for 7 Pi's but wanted to use the mid horn. They used the 4 Pi as a bass bin and put the mid horn and tweeter on top.

Might be a way to get some magic going before you finish the 7 Pi bass bins.

Barry

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Subject: Re: Pi speaker arrangement.  
Posted by [Rusty](#) on Fri, 14 Jun 2019 19:11:08 GMT  
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Boy you've done a colossal job on those mid horns. I really dig that color combination. I was wondering about your construction technique. It looks rather like you slotted vertical with the

horizontal, or visa versa. But I can't tell for sure with the small pic's. But it seemed a great way to get a tight fit with the mating surfaces. Anyway, just a great job.

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Subject: Re: Pi speaker arrangement.

Posted by [Wayne Parham](#) on Fri, 14 Jun 2019 19:29:51 GMT

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Wow! Those horns look great!

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Subject: Re: Pi speaker arrangement.

Posted by [johnnycamp5](#) on Sat, 15 Jun 2019 01:53:40 GMT

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Thanks guys.

I'm not sure why the pic is sideways here. When I posted it from my i-phone, it was in the correct orientation.

Any way....The mid horns aren't quite as nice as they look in these scrappy I-phone pics, but I appreciate the complements.

That's a rather dark overhang/shed area attached to the back of my garage, where I like to do this type of work (making lots of saw dust lol).

I didnt quite get the front edges (the orange parts where the horn flares meet the enclosure) of the horns as nice and flush as I'd like them.

You can't really see it with the poor lighting. Also, that orange paint is a flat finish so it doest show much imperfection (which is exactly why I used it lol).

The orange color is nothing special, it's the same paint I used over the stucco walls at the front end of the basement (you can see that in the earlier pics in this thread). I had it around so I used it, figured it might help them blend in.

I'm guessing once they're in the front corners of the basement, under those bright overhead led lights, they wont look as nice, in which case Ill just go ahead and make them better.

The actual horn flares are sprayed with Mohawk (cans) satin black.

The same old procedure- paint and sand... paint and sand...repeat...repeat...

Barry, yes Ive read about setting the horns atop the upside down 4pi's.

That's a good way for me to give these a listen.

Rusty... I cut two identical bottom and top pieces (like a triangle) for the mid horn enclosure, like a base and top plate.

They glued and screwed (carefully lol) to the front of the horn flares and the driver mounting plate

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supports.

Then I installed the short (about 4"s) side pieces. Then the 90 degree back closure piece last, which is removable (obviously) to service the mid-woofer.

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Subject: Re: Pi speaker arrangement.

Posted by [johnnycamp5](#) on Thu, 10 Oct 2019 21:09:22 GMT

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I hadn't updated in a while. Ive been slammed during my busy season.

I still haven't gotten to building the bass bins yet, which is by far the easiest part IMO... (aside from being too busy, I'm also a very good starter, but a lousy finisher lol).

Weeks ago I did get a pair of my bass wedges back, and I just couldn't help but throw them into place under the mid-horns and wave-guides and give them a listen-

Needless to say I am pretty astounded at their performance.  
Can you say "Dynamics"?

Ive never owned anything else that came as close to the "band in the room" sound.  
I had an Elvis party on Aug. 16th and evrybody was really grooving on the sound! Fun stuff!

Bruce's (Oddwatt Audio) pre amp and mono blocks sure help round out this dynamic combination.

Thanks Wayne and Bruce for the opportunity to D.I.Y. the best system Ive ever owned or heard in such a (relatively) small room!

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#### File Attachments

1) [IMG\\_0546.jpg](#), downloaded 422 times

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Subject: Re: Pi speaker arrangement.

Posted by [Wayne Parham](#) on Fri, 11 Oct 2019 01:07:57 GMT

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Sweet! That is seriously cool!

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Subject: Re: Pi speaker arrangement.  
Posted by [Barryso](#) on Sun, 13 Oct 2019 12:35:57 GMT  
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You've got the racing stripe from the 4 pi's on the bass bins. It's excellent.

The stripe seems to make the bass bins look smaller. It's a very cool visual trick.

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Subject: Re: Pi speaker arrangement.  
Posted by [johnnycamp5](#) on Mon, 14 Oct 2019 00:54:37 GMT  
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Thanks Barry.

Yes that was actually a mistake I made (running out of veneer) back when I built the 4pi's, but I ended up liking it, so I did it to my wedges as well.

I have a larger pair of wedges tuned lower (about 5 cubic feet) with the racing stripe as well.

I will likely do it to the proper bass bins this way when I get around to building them.

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