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Subject: Taking the 7Pi to the next level

Posted by [Nelson Bass](#) on Sat, 25 Jun 2016 18:29:04 GMT

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Hello all 7Pi owners,

I like this thread to be used only for sharing our ideas and modifications of our beloved 7Pi loudspeakers.

I don't want us to go into the typical upgrades like using expensive capacitors, coils or wires because that kind of discussions often kills a good discussion on what really matters.

What kind of wood and braces that matters I do find irrelevant too as we should share the same reference - the originally design by Wayne.

Midrange driver

My first idea that I want to try is to remove half of the spider from the midrange driver.

By that I want to reduce the stiffness and expect the driver to be faster (read more dynamic) and with less distortion than the originally driver.

One just removes half of the area of the spider so it will look like the symbol for radioactivity! One needs a small very sharp knife and a steady hand. Take care that you don't cut the wires to the voice coil or even damage the coil...

Steen Duelund (RIP) removed the spider entirely and did use a thread of silk placed around the voice coil. How to do this is described here: <http://www.steenduelund.dk/scanspeak8554.pdf>

Mr. Duelund was deeply involved in the design of the loudspeakers at Gryphon Audio Design: <http://www.gryphon-audio.dk/pages/a-tribute-to-steen-duelund>

Compression driver

Some people removes the bug screen from the throat of the driver and claims the driver better. I've no experience with this kind of modifications. Anyone?

Bass corner horn

I'm happy with the bass as is. But some claim that Class D amps are the Holly Grail to drive bass drivers with... Any experiences with the 7Pi?

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Subject: Re: Taking the 7Pi to the next level

Posted by [johnnycamp5](#) on Sat, 25 Jun 2016 19:41:34 GMT

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Hey Nelson.

I have not yet upgraded from the 4pi's to the 7's.  
So I can not comment on any possible upgrades.

I'm throwing in some flaking subs (3pi's) on my 4pi's for now. I will use them as distant subs once I upgrade to the 7pi's.

With the midrange spider, why not try it?

If you don't like it, you can just replace the spider correct? I'm not sure if that Eminence 10" is rebuildable, usually pro drivers are.

I believe a horn flare or wave guide mounted to the front of a driver actually reduces excursion, which in turn reduces distortion.

I've always thought a spider was a way of reducing/controlling excursion as well (not just locating the voice coil, but I could be off here), so from this point of view, I would fear you might get more distortion instead of less.

The comp. driver screen may be even easier to remove/replace.

In fact, I have heard of some of the B&C comp. drivers not having those debris screens to begin with.

Glad to see your still grooving on your 7pi's .

You upgraded from 4pi's correct?

Can you comment on any improvements that immediately come to mind from the upgrade?

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Subject: Re: Taking the 7Pi to the next level

Posted by [Nelson Bass](#) on Sun, 26 Jun 2016 17:03:24 GMT

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Hi Johnny,

The spider isn't replaceable and it's function is primarily to center the voice coil.

I rely on my amplifiers to control drivers and their excursion.

Yes, I switched from 4Pi's to 7Pi's. With the 7Pi's I have better bass integration in my listening room and better midrange.

If you're used to be sitting close to the 4Pi's and are enjoying their chest pumping effect you should not upgrade to 7Pi's as you will lose that effect.

I don't use my 3Pi subs with the 7Pi's. I've plenty of bass without and prefer the cleaner setup.

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Subject: Re: Taking the 7Pi to the next level

Posted by [johnnycamp5](#) on Sun, 26 Jun 2016 17:47:14 GMT

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Nelson Bass wrote on Sun, 26 June 2016 13:03Hi Johnny,

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Yes, I switched from 4Pi's to 7Pi's. With the 7Pi's I have better bass integration in my listening room and better midrange.

If you're used to be sitting close to the 4Pi's and are enjoying their chest pumping effect you should not upgrade to 7Pi's as you will lose that effect.

I don't use my 3Pi subs with the 7Pi's. I've plenty of bass without and prefer the cleaner setup.

Hey Nelson.

I do not sit very close to the 4pi's at all. Never less than 15' (4 meters).

I'll leave the chest pumping to the 4pi mains - 3pi subs combination, and a defibrillator

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Subject: Re: Taking the 7Pi to the next level

Posted by [jgoodd8050](#) on Wed, 29 Jun 2016 23:13:58 GMT

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First off thanks for starting this thread. I have been using my 7's for a few years now. I would love to hear more about upgrades in the mid-horn and top horn. I have tried quite a number of amps (2a3, variety of vintage push pull and some midfi solid state) and my conclusion is that class D is the best with the 2226. I pulled a Behringer dsp3000 from my sub recently. It was a major improvement, probably due the class D and sheer wattage. I plan to purchase another Behringer and biamp the system next.

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Subject: Re: Taking the 7Pi to the next level

Posted by [johnnycamp5](#) on Thu, 30 Jun 2016 21:36:59 GMT

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jgoodd8050 wrote on Wed, 29 June 2016 19:13First off thanks for starting this thread. I have been using my 7's for a few years now. I would love to hear more about upgrades in the mid-horn and top horn. I have tried quite a number of amps (2a3, variety of vintage push pull and some midfi solid state) and my conclusion is that class D is the best with the 2226. I pulled a Behringer dsp3000 from my sub recently. It was a major improvement, probably due the class D and sheer wattage. I plan to purchase another Behringer and biamp the system next.

I own 4pi's and I feel the mid range and top horn sound really damn good.

I am going to upgrade to 7pi's one day, which I understand has an even smoother mid range, the speaker system has less IMD.

Im just not sure how much better you can expect it to get?

Thoughts-

1- I would agree that a class D amp would be awesome for the 7pi's JBL 2226, in a bi amp'd set up.

2- I doubt I would use it for the mid horn or CD horn personally, I would stick with a tube amp.

3- I'm sure Wayne can build a crossover for the 7's capable of bi-amping, separating the 2226 from the mid and CD horns.

Would you only have to match amp gains or is there more to it?

4- Perhaps this begs the question- why not just run distant subs from your class D amp? It would smooth the bass response.

5- Distant subs would need to be crossed over at a lower frequency, so it stands to reason that you will enjoy less of that "class D bass slam".

Which brings us back to thought-1 .

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Subject: Re: Taking the 7Pi to the next level  
Posted by [Nelson Bass](#) on Thu, 30 Jun 2016 21:49:56 GMT  
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I'm considering trying a dedicated class D amp on the 2226s so I'm delighted that you had success with your experiment.

That said, I'm for now quite happy with the bass performance using my Atma-sphere DIY M60 OTL amps. More dynamic bass performance than from my cheap Sony Class D Surround amp but I definitely expect better performance from more modern class D amps...

I've another idea that might bring our beloved 7Pis to the next level...  
A x-over filter based on the idea of a balanced design like this: <http://euphoriaspeakers.com>

Or maybe even an amp per driver and using a DSP based x-over... (that crazy idea breaks my analogue based heart for sure - I've switched hifi religion before so why not just trying it?

Oh... I expect that we also can improve the in room bass response by placing another pair of bass bins ABOVE our 7Pis in the upper corners of our front wall!

That we will also raise the overall sensitivity of our the system.

But that is really beyond my intention for this thread: modifying the original design so every 7Pi owners can gain even better performance from their 7Pis.

Wayne might also have some ideas for possible improvements?

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Subject: Re: Taking the 7Pi to the next level

Posted by [jgoodd8050](#) on Fri, 01 Jul 2016 01:27:59 GMT

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2- At the moment I don't use class d on horns, although when I did I was surprised. The top end was the only part that really didn't sit well with me. There are much better class d amps than the Behringer. It is better suited to lower frequencies.

3. The 2226 only uses 1 coil in the crossover. Modifying the crossover for Bi-amping would be easy enough to diy. Level matching is quite easy when the amp has gain controls. One could probably lift the crossover padding on the horns since they don't need to be padded down to the 2226's level. My 2a3 amps would like this!

4. I have a serious sub in the system now but I still feel that 2226 came to life with class d enough to justify another amp.

5. Sub is being moved around the room while I take measurements. It is a work in progress. I can't locate it, if I keep it under 80hz no matter where it goes.

Once I dial in everything under 300hz, I will start looking at the rest of the system for possible improvement. I guess you could say I'm take a "bottom up" approach.

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