Subject: 1-Pi/2-Pi
Posted by RDLewis on Tue, 05 Jan 2010 22:58:42 GMT
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Hello wayne

You recently send me plans for the 2-Pi and tower, it was only when I saw the latter that I found they are pretty big beasts especially for a more compact room. I was initially attracted to the 1-Pi towers as shown on the Walton Audio site, but you said the 10 would have greater bass potential. I would really like a more compact (say 65 litres) tower any comments on the compromise ?

But my main question concerns the sonic differences between the 8 and 10 besides the bass depth. As the crossover is the same for both I assume there is a family similarity. Besides its musical abilities I want good voice reproduction as I listen to a lot of documentaries/plays via the BBC radio and of course watch films etc.

Not having heard either, I would be grateful if you and any other member could offer their subjective opinions on the merits of the 8 and 10

Thanks

Roy

Subject: Re: 1-Pi/2-Pi
Posted by Wayne Parham on Wed, 06 Jan 2010 00:36:00 GMT
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It really does boil down to the bass, the character below 100Hz. The electro-mechanical parameters of the Alpha 8 are very different than they are in the Alpha 10. Those parameters are largely responsible for bass response. Above 100Hz, the drivers are similar, but below 100Hz, they're very different.

Of course, in all things, there is a balance of priorities and the difference between them is manifested in the cabinets required. The Alpha 8 is happy in small boxes but the Alpha 10 really

for the Alpha 8, which can be used in vented boxes from about 0.75ft3 to 2.0ft3, tuned to 55-60Hz.

can be used for the Alpha 10. It should be put in vented boxes from about 1.5ft3 to 5.5ft3, tuned to 35Hz-40Hz.

What this means is the Alpha 10 can provide quite a bit more bass, but it needs a larger box to do it. That kind of goes without saying but the point I want to emphasize is that the Alpha 8 can be put in a a cubic foot box if you can sacrifice bass and it will still sound nice. The Alpha 10 can't, because in an undersized box it will become underdamped in the midbass and sound kind of thumpy, without any real bass. Such a box would cause voices to sound overly throaty, and stringed instruments will be artificially heavy sounding but without any real bass. On the other

hand, if you have a box larger than around three cubic feet, the Alpha 10 is fine but the Alpha 8 won't be, at least it won't make any real bass.

Subject: Re: 1-Pi/2-Pi
Posted by Wayne-o on Wed, 06 Jan 2010 01:21:07 GMT
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The one-Pi's sound very clean and rich in the Midrange but lack low bass , made for subs, in a larger box like 1 cu.ft. or larger will get by without a sub. In my Opinion the two-Pi towers are one of the best sounding speakers made. Wayne Parham has stated these to sound better than any speaker in their price range. I agree. I would tell anybody making speakers to make the 2-Pi towers first. These speakers dont need subs at all. when compared to other speakers, me and my friends that listened prefer the the 2-
Pi towers. Fall in love with tone, Silky treble that is clean and not harsh. Great bass punch with nice low sub bass overtones. I would take the two-Pi towers over the one or two pi with a sub.

Subject: Re: 1-Pi/2-Pi
Posted by RDLewis on Thu, 07 Jan 2010 22:00:55 GMT
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Thank you gentlemen for your replies, the Alpha 10/2-Pi looks like the direction I should follow.

After you sent me the Plans for the above, I did some more searches for the them on your site. To one answer you said that you used MJking's worksheets to model the Towers. Now I have the original "free" version so I put the specs and dimensions and the results looked good. Out of interest I tried out the above using his "ML TQWT" and managed to come up with a very similar response (with different Port size). The box would be narrower and shorter, which would be more acceptable in my room. Modeling is all very well, but would it sound as good?? Though MJK does state that TL's, reflex, MLTQWT all use the same equations.

What is your opinion of the above, have you tried TL's? Do you have any frequency/impedance, charts, etc, for the 2-Pi tower

I would be grateful for any further advice

Roy

Subject: Re: 1-Pi/2-Pi
Posted by Matts on Fri, 08 Jan 2010 02:48:07 GMT
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there's something special about the Pi2's. They have great dynamics and an energy that's just

fun to listen to. I can't imagine any better speaker for the money if you diy. I built the regular Pi2's with my son, and he took them to college and still listens to them a few years after graduation.

Subject: Re: 1-Pi/2-Pi
Posted by Wayne Parham on Fri, 08 Jan 2010 15:03:11 GMT
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RDLewis wrote on Thu, 07 January 2010 16:00After you sent me the Plans for the above, I did some more searches for the them on your site. To one answer you said that you used MJking's worksheets to model the Towers. Now I have the original "free" version so I put the specs and dimensions and the results looked good. Out of interest I tried out the above using his "ML TQWT" and managed to come up with a very similar response (with different Port size). The box would be narrower and shorter, which would be more acceptable in my room. Modeling is all very well, but would it sound as good?? Though MJK does state that TL's, reflex, MLTQWT all use the same equations.
I don't build transmission lines, as I've always used Helmholtz resonance to tune the box instead of pipe modes. I designed the box with standard Helmholtz resonance formulas and then used Martin King's spreadsheets to verify that port and driver placement would prevent higher standing waves from generating peaks in response.

If you've studied what Martin King does, he essentially advocates using the primary pipe mode to tune the box but then suppresses all higher modes using port and driver placement. This is very similar to the approach I take, except the transmission line speaker uses the fundamental standing wave mode as the primary tuning mechanism, whereas my speakers use Helmholtz resonance. The results are the same, when properly done.

What can get a speaker builder in trouble, can happen either with either mechanism. If the speaker is designed right, I don't suppose which mechanism is chosen, both will probably give identical results. The main thing is to suppress those higher modes. If the box is large, and especially if it's a tower (long and thin), then it will have pipe modes, no matter what you do. Likewise, if it has a port, then it will have Helmholtz resonance.

It doesn't really matter if you call such a speaker a transmission line or bass reflex box - both standing waves and Helmholtz resonance are happening. What matters is that, in the end, the system provides the desired response. The primary resonance - whether it be the first pipe mode or Helmholtz resonance - must be tuned appropriate to give the intended transfer function on the low end, and the higher standing wave resonances must be suppressed either by placement or by damping, or both.

Subject: Re: 1-Pi/2-Pi
Posted by RDLewis on Sun, 10 Jan 2010 19:49:51 GMT
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Thanks again Wayne.

Like yourself, I have found Martin King very generous with his help and advice, and followed his website and debates on the various forums. He often mentioned that reflex boxes would morph into TL's as the length increased! With ML TQWT's he adviced me to use the ported box worksheet to finalise the design as the port position could be accounted for.

So you both seem to be coming from the same direction. Good to know that clever minds can think alike.

As I mentioned in my previous message do you have any frequency impedance charts available for the "2"

Roy

Subject: two Pi tower response and impedance charts
Posted by Wayne Parham on Sun, 10 Jan 2010 21:12:44 GMT
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Subject: Re: two Pi tower response and impedance charts
Posted by RDLewis on Mon, 11 Jan 2010 13:04:16 GMT
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Thank you

Roy

Subject: Re: 1-Pi/2-Pi
Posted by RDLewis on Thu, 14 Jan 2010 14:09:39 GMT
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Hello again,

A few months ago I discovered this site "www.prodance.cz", (some of you may be familier with it already). Its a Slovakian site and provides test results for a large number of Pro drivers. Click on the English box, then go to the "MLSSA Data" box at the top.

Not having been there for a while, I discovered they have added the Alpha-8 and 10, as well as the other units in the Pi range. What it shows is that the 10 has a somewhat smoother frequency

response and cleaner "waterfall". Which may be "another" reason for the preferance for the "10" over the "8" shown in the previous replies. Its interesting that the larger cone seems to offer a better controlled result!?

Roy