Subject: 4PI: 15" vs 18" versions.
Posted by GarMan on Fri, 16 Jan 2004 20:28:06 GMT
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It's been averaging 0 degrees fahrenheit here in Toronto for the past week, and there's not much to do but plan for my next speaker project for next Spring. It'll probably take me from now to May to make a decision. So between now and then, expect lots of questions. I also know that the answers to most of my questions are in the archives, but quite frankly, the search function here can use some improvement.Question for now: 4Pi or 4Pi 18"? I think the 4Pi will most likely be my next project, but can't decide to go for the 1"HF-15"LF or 2"HF-18"LF combo. I'm looking for something that will sound great as is, but will also allow me to build from for a full range sound.What is the top end like of the 4Pi and 4Pi/18? Will I be missing the frequencies in the upper teen? Can (or should) a UFH driver be added to the 4Pi/18, perhaps crossed at 10K?What about the bottom end? How to these speakers compare to the bass of the 2Pi Towers? Could the 4Pi use a sub?thanks,Gar.

Subject: Re: 4PI: 15" vs 18" versions.
Posted by Wayne Parham on Fri, 16 Jan 2004 22:38:47 GMT
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Most of the 2" exit drivers tend to lack top octave information, even with compensation. And the PSD3003 is out of production too, so you would have to run JBL or TAD drivers. To be honest, the 18"/2" combination's main advantage is additional power handling and it has never been a match for the smaller 15"/1" version in terms of quality. I am considering dropping it from the line. There's too much compromise, much better to go with the 15" midwoofer and 1" compression horn plus subs if desired. That gives you the nice top end of the smaller driver, better directivity match at the crossover point, smoother midrange and greater extension if using subs. It's just a smoother combination all the way around.

Subject: Re: 4PI: 15" vs 18" versions.
Posted by elektratig on Sat, 17 Jan 2004 10:45:08 GMT
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GarMan,I don't know how you guys in Canada do it! It's cold enough here in NYC!On your question whether the 4 Pi needs a sub, the answer is "no", but a sub can be fun depending on what amplification you're using. I broke in my Pi 4s w/ a pp 40W EL34 amp (Assemblage ST40), which produced overwhelming bass. But after breakin I play my 4 Pis w/ 8W Welborne Laurels, which must roll off a bit at the bottom. Even w/ the Welbornes, bass is fine, but I was spoiled by the fantastic bass I'd heard w/ the Assemblage. Because I'm obsessed w/ building speakers (and had never heard, much less owned, a sub), and because I had an unused Marchand crossover, I

built a sub. The difference is subtle but fun and rewarding with Mahler and Eminem!
 Tempest Sub Construction Pix

Subject: How high do you need to go? (A bit long.)
Posted by Dean Kukral on Sat, 17 Jan 2004 11:57:32 GMT
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Speaking of 1" verses 2" drivers brings up another point for me. A good 1" driver can hit 16K or 18K which is plenty for me but some cry out for cd's to reach 22K and above. I wonder how high one (me) really needs to go.I wondered just how high I could hear. I hooked up an Eico audio generator and, also, a Lodestar function generator to a set of TV speakers to see how high I could hear. I am 61 years old, so I did not expect to be able to hear to 22K :).I found that I could "hear" to about 13K. "Hear" is not very descriptive here. Here "hear" means that if I tilted my head right and cupped my ears, then just maybe I could hear something.But it gave me a headache to go much over 10K. It reminded me of an auto detector in Bloomington, Indiana that one had to sit next to while waiting for the light to change. It created a very high pitched sound that made me roll up the window, because it went right into my brain - I don't know how else to describe it.I also tested my wife, who is only 39 ;), and she could hear a tad higher than me. Maybe some musical instruments do produce tones or overtones in the over 12K spectrum, but I don't believe that I, personally, would miss them.I took the Eico to run on my main speakers with EV tweeters, but the results were not much different.I am sure that, for me, any of the Pi speakers would do fine, but I am curious if anyone else thinks they can hear "music" over 15K? Perhaps it is a "presence" or feeling of "liveness" that is experienced more than heard?

Subject: Re: How high do you need to go? (A bit long.)
Posted by Manualblock on Sat, 17 Jan 2004 13:26:29 GMT
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Interesting, I had to get a hearing test due to the nature of my work and the results neatly corroberate your findings, 12.5k in the right ear and 13.5k in the left using a high resolution anechoic chamber test that lasted 20 minutes. The lows rolled off also but I don't have the figures.

Subject: Flyback transformers
Posted by Wayne Parham on Sat, 17 Jan 2004 18:00:39 GMT
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Can you remember walking into department stores or electronics stores where lots of TV's were on and hearing the scream of the flyback transformers? When you could hear that, you were

hearing 15,750Hz.

Subject: Re: Flyback transformers
Posted by Manualblock on Sat, 17 Jan 2004 18:39:06 GMT
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Flyback transformers? You are a golden ear!

Subject: Re: Flyback transformers
Posted by Adam on Sat, 17 Jan 2004 23:55:23 GMT
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I have that problem very clearly, Wayne. I also very clearly hear dog whistles.While I think it depends on your hearing abilities... I am starting to believe there is some merrit to extension beyond 20 kHz. We have the Kef reference in the store that I work at, which uses the hyper tweeter with extension up to 50 kHz or so. I do notice a certain air in their sound which is less prominant in speakers which don't have this extension. I notice this with similar speakers I build using tweeters with extension beyond the 20k mark.Adam

Subject: Re: Flyback transformers
Posted by Dean Kukral on Sun, 18 Jan 2004 03:08:36 GMT
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Yes, absolutely. Hated it with a passion, but did not know what caused it. I don't remember hearing it for a while, but now am eager to go back and see if I can still hear it, because that would be good news of sorts. Nowadays mostly what I hear are distorted subwoofers.I tried listening to my older tv's, but my tinnitis drowned out anything that I might have heard.I have an ongoing tinnitis (comes of age), which is "apparently" at a lower frequency - maybe at 11K or so; it changes as my head moves. Should try and see if I could produce beats in my ears, but imagine that I cannot.So, is a flyback transformer singing = music?An interesting sidenote: my Radio Shack sound pressure meter was recognizing a spl of 75 dB or so at some higher frequencies, even though I heard nothing! Maybe I should point it at the back of my tv's.