Subject: My point of view, if interesting.
Posted by Erik from Holland on Wed, 27 Mar 2002 11:47:17 GMT
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Hi there,After reading a lot of discussions in the forum i come up with the following:I always want to see things in proportion. 2-way systems mostly mis something in the sound they produce.I think that sub-bass can only be produced with woofer from 15" and larger. then is the logical step that 1 15" woofer, needs a 12" for mid (or 2 8") and 2 15"-es need 2 12"-es.And double 18" needs double 15".The Eminence lf are ment for subbass, so if you would cross them above 1k they won`t sound good.Do almost all the PI speakers use 2-way with passive crossings?I dont consider passive crossing networks handy for the purpose i use the loudspeakers. A active crossovernetwork is far more better than passive. I also use a compressor/limiter for the wellness of my set.so if you people would really hear something nice, try a active system.

Subject: perhaps you should try the PRO AUDIO forum...nt
Posted by Sam P. on Wed, 27 Mar 2002 12:20:44 GMT
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nt

Subject: Re: perhaps you should try the PRO AUDIO forum...nt
Posted by Erik from Holland on Wed, 27 Mar 2002 14:02:23 GMT
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Hi Sam,Why? i`m interested in the PI, so why not talk about them.Like i said i got two kappa lf`s where i`d like to build new kabinets for, and i`m not sure what type suits best for these drivers.Maybe you could tell me what`s best, and maybe you like to give your opinion to my message.In the pro audio directory they don`t talk lot about speakers. and certainly not about eminence and rcf drivers.I finaly found a place where i can talk about my passion!Sorry if i look stubburn!

Subject: punch the specs into boxplot or pi align
Posted by Sam P. on Wed, 27 Mar 2002 14:16:42 GMT
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and see what kind of Vb is required. From there, the design process is pretty straight forward. The regular Kappa12 looks similar to the Delta12LF that Wayne uses in the Theater 3 with the eminence PSD-2002 crossed PASSIVE at 1.6kHz. His HF design is "turnkey" complete normally, but if your woofer is higher than the 97 dB sense of the Delta12LF, a different amount of HF padding will be needed. Sam

Subject: Re: My point of view, if interesting.
Posted by Wayne Parham on Wed, 27 Mar 2002 15:10:59 GMT
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Do some research on directivity, specifically about the principle of matching directivity of adjacent subsystems through the crossover region. Three-ways have their advantages, but so do two-ways. The idea of the DI matched two-way is to crossover at the point where the midwoofer directivity has narrowed to match that of the HF horn. It is a rather high crossover point, so the vocal range is generated by the midwoofer. That works out pretty well, since it moves the crossover frequency above the critical midrange band.

Subject: My observations and some basic measuring show...
Posted by ToFo on Wed, 27 Mar 2002 16:28:35 GMT
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...that the delta 15 used in theater 4Pi delivers the goods up to x-over. I was sceptical when I came across the Pi loudspeaker designs. I couldn't turn away from so many raving fans, so I had to hear for myself. Right away I noticed that delta 15's are very quick and detailed up to about 2KHz. I still thought crossover at 1.6KHz was too high so I got my extra amp and my active

crossover to try lower crossover frequencies. I just kept adjusting one or two clicks at a time untill the balance of fundamentals to overtones seemed most natural. I was surprised to see after two days of great midrange, I was set to 1.6KHz. Wayne has it right on! maybe other horns & drivers would not like the delta 15 so high, but im my system it does really well. As for cone size cancellation and breakup issues, I have some observations that may explain why this driver works so well. First the breakup seems to happen gently from about 2KHz up to 5.5KHz. A 15 inch driver beams very sharply at the top of this range. (where the breakup sounds pretty bad) My ears and my meter says that this beaming is less that 10 degrees wide. So unless the delta 15 is installed near listener height, the breakup goes blasting straight into the bottom of my sofa. The crossover takes care of it pretty well also. Along with the obvious bass issues I wonder if this part of why these speakers are supposed to stay on the floor. I really like how the big cones gradually narrow their dispersion as they near the crossover frequency. The horn lenses are designed to spay a 90 degree pattern in the horizontal plane, and I think it would sound weird if the mids were real strong where the horns were not spraying.Just my ears, a basic meter and some decent gear, so take it for what it is worth. (my other loudspeakers are acoustat's and they definately do midrange well. The Pi's hold their own even in exotic company)Thomas F.

Subject: Re: My observations and some basic measuring show...
Posted by Erik from Holland on Wed, 27 Mar 2002 16:45:01 GMT
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Maybe you could read my question i posted a few lines down in the forum. Nobody ansert yet.What kind of active filter do you use?And what sort of sets did you build?Thanks for your reaction!Erik

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Subject: Re: My observations and some basic measuring show...
Posted by ToFo on Wed, 27 Mar 2002 17:21:10 GMT
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My pleasure Erik,I think these are good subjects. As for your question a few lines down, I would want to see frquency response graph for that 12" and please know that this is a little out of my expertise. I feel that an active solution would be best in your case. Something simple wired between your active X-over and your low frequency amplifier. Passive inductor coil (is this the

spool you speak of?) might be too steep in rolloff and reactive components are going to take away from what you are doing with the active crossover. Most systems can benefit from the right active setup. Coils can take away from the amps ability to drive your bass units, and can reduce sensitivity, thus making your problem with louder tweeters even worse. I will think more on this. Maybe we should handle this off forum as it is not very PI concerned. Feel free to email me. I may know some links that will help.As for my setup, it is for home use. I wanted to merge strenghs of home and nightclub sound. Waynes speakers have allowed me to realise this. -Theater 4Pi loudspeakers-Rane AC23 active crossover-Two Adcom gfa 5400 amplifiers (125 W/C more than enough with 4Pi's)-Adcom GFP 555II preamp. (maybe a bottlehead foreplay soon) -California audio Labs Icon MkII CD Player-Thorens TD 320 MkII Turntable w/ Sumiko Blue Point Special pickup-Tandberg cassette deck-Pioneer FM TunerThe X-over is 4th order linkwitz/Riley w/ phase alignment. you can also add high frequency compensation with a little solder and a couple of small capacitors. I will still use the passive Pi X-over a lot. it is my reference, and I do not need huge power of two amps in my home.These amps work great with sensitive speakers as they give a few watts of class A operation. about right for all normal listening.Thomas F.

Subject: Re: My observations and some basic measuring show...
Posted by Wayne Parham on Wed, 27 Mar 2002 20:38:11 GMT
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Please see my response to your post below. I have discussed all of your comments in sufficient detail in that post, and in my other reply to you on this thread.

Subject: kappa12 freq. response
Posted by Sam P. on Wed, 27 Mar 2002 22:54:54 GMT
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looked pretty nice. It was flat out to past 3kHz, leading me to consider it a candidate for crossing to some 2404H "butt cheek" tweeters at 3kHz/12dB/octave. After running boxplot, I was not sure how much of a "sub-bass" driver this really is... Sam

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