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Subject: 4 Pi Cross over and design plans  
Posted by [Arthur C](#) on Mon, 28 Nov 2011 14:22:08 GMT  
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Hi,

I'm now fed up with low efficiency speakers. I have owned a Dynaudio 42 and 52. The sound is good but very far from the reality. I often go to the concert (classical music) and I am quite disappointed when I play records on my system.

Now that's decided. I want to shift to Hi efficiency speakers.

I would be grateful if you could send to my attention de specification design of the 4 Pi and the crossover design. I have the couple made of the Beyma CP380M and TD 250. Considering that the B&C DE 250 and the Beyma CP 3870 M are quite closed, I would like to know if I can keep the Beyma CP380M and the TD 250 or If I need to by a new compression driver and a new horn ?

Many thanks in advance for all you help.

Best regards

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Subject: Re: 4 Pi Cross over and design plans  
Posted by [Wayne Parham](#) on Mon, 28 Nov 2011 14:33:19 GMT  
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You've got mail!

I would stick with the DE250 and H290 shown in the plans. Substitutions require a new design/test project and it is not a trivial task. See what's involved in the link below:  
Notes for the DIYer

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Subject: Re: 4 Pi Cross over and design plans  
Posted by [Arthur C](#) on Mon, 28 Nov 2011 18:14:34 GMT  
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Dear Wayne,

Firstly, many thanks for your attached file with all the relevant information concerning the 4 Pi speakers.

I have noticed that any changes in the couple DE 250 and H290 will need some hard fine tuning. So I am going to closely follow your suggestion.

I just wanted to have some clarification about the woofer. In France, the JBL 2226 H is tremendously expensive. In there a lot a differences between the Eminence Omega Pro 15 A and the JBL 2226H that may eliminate the Eminence woofer. I have seen the datasheet of the Omega, the speakers seams very well built and quite close to the JBL in terms of performance.

One more time, many thanks for everything.

Arthur.

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Subject: Re: 4 Pi Cross over and design plans  
Posted by [Wayne Parham](#) on Mon, 28 Nov 2011 19:06:32 GMT  
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The Omega 15 is a fine woofer and sounds very good. It is strong and powerful, and the vocals are clear. It sounds good enough that I have used it in speakers that I have taken to trade shows, so I consider it to be good enough to rely on for first impressions that people may take of my loudspeaker designs.

That said, the JBL 2226 is still a much better speaker. The main thing it offers that the Eminence doesn't is a shorting ring. That alone is worth the extra cost, as it greatly reduces distortion - on the order of 15dB, which is a 30x reduction in terms of power. It sounds clearer at medium to high power levels and is less fatiguing over long term listening.

For more information, see:  
Standard 4Pi vs. Upgraded 4Pi

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Subject: Re: 4 Pi Cross over and design plans  
Posted by [Arthur C](#) on Tue, 29 Nov 2011 11:17:22 GMT  
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Dear Wayne,

Many thanks for your clarification and explanation contained in the file.

Just one point. In France, it is nearly impossible to purchase the Eminence H290. I have been proposed by my retailer two substitutes :

- (i) the B&C ME45 and
- (ii) the RCH H100.

Are such hornes acceptable for you ?

many thanks in advance.

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Subject: Re: 4 Pi Cross over and design plans  
Posted by [Wayne Parham](#) on Tue, 29 Nov 2011 13:53:19 GMT  
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Sorry, no. I'm sure you can make it work, but it will require a crossover redesign/test project. Like with the other parts, you might find it's a drop-in replacement but wouldn't know without testing. And to tell the truth, the horn is probably least likely to be interchangeable.

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