Subject: 4 Pi revisited first impression
Posted by Arthur C on Thu, 29 Nov 2012 13:49:04 GMT
View Forum Message <> Reply to Message

4 pi speaker revisited, first impressions:

I have just finished this weekend my new pair of 4 pi speakers. My project isn't exactly the same as Wayne's design considering that in France, the Eminence H290 is not available and the JBL 2226H is really too expensive.

The horn chosen is the RCF H100 very popular in the DIY world and the woofer chosen is the Eminence Kappa 15A.

Considering the filter, I have maintained the principles of Wayne's filter with very minor modifications.

For the woofer, I have substituted a 25 microFarad capacitor and a 6.5 ohm resistor instead of 20 microFarad and 8 ohms (C5 and R3).

For the couple B&C DE 250 and RCF H100, I have operated some little modification in order to take into account that the frequency response of the H100 less attenuates the high frequencies as the H290.

Thus, I have substituted the 0.47 microFarad capacitor with a 0.33 microFarad (C1).

Considering that the RCF H100 horn creates a little peak around 2kHz, I have used a 4.8 microFarad (3.3+0.47) capacitor instead of the recommended 6.8 microFarad in Wayne's schematic (C2).

Concerning the size of the enclosure, some very slight modifications have been also done but with the same internal volume as the volume mentioned in Wayne's plan. Concerning the port, some modifications have been introduced. I have used a 10cm diameter port with 14 cm length. Frequency tuned around 35 Hz.

I just wondering about one point, in Wayne's schematic C4 is 10 micro. In accordance to my calculation it should be 20 micro. I haven't tried this substitution. Is someone able to explain me?

Listening impressions: the results are purely tremendous. All the spectrum is very well reproduced with very high dynamic and definition. With such kind of speaker you are far away from most of expensive product available. The dynamic even at very low volume is very good. The style of reproduction is very clear. You can hear everything. One could find that this type of speaker is not for classical music, that's wrong. On piano, you have all the definition and dynamic of the piano which is tremendously well respected without compression as one can feel when listening low efficiency speaker.

The Eminence Kappa 15 A has a very good ability to reproduce the mids with definition and dynamic and is not aggressive at all. The Eminence Kappa 15 A is very seriously made and very

well shaped with a very low price.

I was wondering about the frequency response in the low frequencies. Even if in the specifications the -3db is around 50/60Hz, there is no lack of bass. A 15" woofer reproduces low frequencies much more better than 6" or 8" woofer commonly installed in hifi speaker. You have real bass with power, definition and impact and less compression than 6" or 8" woofer.

Of course, the couple B&C DE 250 and RCH H100 gives you a definition that is very hard to find in hifi speaker even in very expensive brands. Moreover the distortion of DE 250 is far less than the common distortion of "regular" mid speaker.

In the same manner, if you wish to listen to music or movie sound tracks at high volume, this pair of speaker is made for you. The ability of the 15" to reproduce sound at high volume is unbeatable.

The listening has been made with a Luxman M 12 amp and a NAD Monitor Series preamp 1300.

To sum up, the 4 pi are very great for music lover want ever the music played. With the 4 pi you back to the golden age of Hifi with modern products. Don't forget that in the 50 until the 80's prestigious brands used very often large 15" woofer for their top level speakers. For marketing reasons 15" woofers have been abandoned by manufacturers.

Pictures will follow soon.

Arthur