Subject: Is calculations of L-pads based on "nominal impedance" or Re?
Posted by Peter K on Wed, 29 Mar 2006 05:56:55 GMT
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Hi,I would like to make L-pads for my BMS 4592 ND drivers. However, I am not quite sure whether to base the calculation on the drivers "nominal impedance" (which is 16 Ohm) or their Re values, which according to the people at BMS are 8.9 Ohm for the "mid" section and 7 Ohm for the "tweeter" section.I have actually heard both claims stated!? Could some of you tech-guys (Wayne P.?) please tell me which route is correct? Thanks!RegardsPeter

Subject: Re: Is calculations of L-pads based on "nominal impedance" or Re?
Posted by Wayne Parham on Wed, 29 Mar 2006 14:43:04 GMT
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If you want to do it right, you have to consider actual impedance. Your padding values will not just set attenuation but will also affect the Q of the circuit, which will adjust an amount of peaking or damping. The impedance curve of horns has ripples near lower cutoff, and these can be quite severe. When properly setup, the attenuation resistors will smooth these ripples and make overall response better.

Subject: Re: Is calculations of L-pads based on "nominal impedance" or Re?
Posted by Peter K on Wed, 29 Mar 2006 16:05:01 GMT
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Hi Wayne,Thanks a lot for your reply!Smoothing out the impedance curve is actually the main reason why I want to use L-pads (I will use an active crossover between the bass and the BMS, so level matching is not really necesary, but I may have to level between the BMS mid and high section [the BMS is a "coax"]).Below I have attached a link to the BMS driver. In the second graph of the driver's response the impedance curve is shown (I know the horn is different than the one I will be using, so the response will not be completely identical on my horn).Unfortunately, I haven't got measuring equipment myself, so I can not provide an impedance plot of the driver on my horn. But given the info provided (nominal impedance: 16 Ohm, Re= 8.9 Ohm, and the graph in the link), may I ask:Which R-value would you base the L-pad calculation on?I would really appreciate your expert opinion on this - thanks!RegardsPeter
 BMS 4592 ND driver

Subject: Re: Is calculations of L-pads based on "nominal impedance" or Re?

Posted by Wayne Parham on Wed, 29 Mar 2006 16:41:05 GMT
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I would make a Spice model of this horn / driver and find resistor values that worked with it.

Subject: Re: Is calculations of L-pads based on "nominal impedance" or Re?
Posted by Peter K on Wed, 29 Mar 2006 17:38:46 GMT
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Hi Wayne,I have got the Spice program and I have also tried to un-zip it by the program you kindly provided. The un-zip fubnction seems to work, but for some reason nothng happens when I try to open the Spice program.... However, provided you mentioned that the R-value to base the L-pads on should ideally be close to the actual impedance of the driver, I think it seems most obvious to base the L-pad calculations on the 16 Ohm nominal impedance, which according to the graph from the BMS-site seems close to the mean impedance of this driver.Does this seem sensible to you?Thanks!RegardsPeter

Subject: Re: Is calculations of L-pads based on "nominal impedance" or Re?
Posted by Wayne Parham on Wed, 29 Mar 2006 18:10:15 GMT
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Yes, average impedance would be best. I'm not sure why the Spice program doesn't run for you.

Subject: Re: Is calculations of L-pads based on "nominal impedance" or Re?
Posted by Peter K on Wed, 29 Mar 2006 18:29:01 GMT
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Hi Wayne,I simply do not know either why I can not make the Spice program work. I think I will base the calculations on the 16 Ohm impedance then. Thanks a lot for your replies - you have been very helpful!RegardsPeter