Subject: 2x10 cabinet size
Posted by little.h on Mon, 05 May 2003 01:11:33 GMT
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I'm looking for some help with sizing a 2x10 cabinet loaded with Eminence Alpha 10's. The woodworking will be no problem, but I'm rather confused with all the different software available to determine the cabinet and port sizes. If someone could pount me in the direction of the simplest program for a novice I would appreciate it.Thanks!Stephen

Subject: Re: 2x10 cabinet size
Posted by Wayne Parham on Mon, 05 May 2003 01:35:54 GMT
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I encourage you to download and use PiAlign and BoxPlot. You'll find those Alpha 10's work pretty well in 1.5ft3 to 5ft3 cabinets tuned to 40Hz.

Subject: Re: 2x10 cabinet size
Posted by little.h on Mon, 05 May 2003 12:49:47 GMT
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Thanks Wayne! I'll give those two a try. I think the most confusing aspect is tuning the box. What determines the frequency that you are aiming for?

Subject: Re: 2x10 cabinet size
Posted by Wayne Parham on Mon, 05 May 2003 17:08:20 GMT
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The 40Hz recommendation for the cabinet is one that assures flat response for the system. As far as cabinet size is concerned, the larger you go the deeper your lowest bass notes will be. At 1.5ft3, your cutoff is around 60Hz and at 5ft3, it's 35Hz. Any larger or smaller and the cabinet becomes underdamped at this Helmholtz frequency, so you'll notice a peak in response.

Subject: Re: 2x10 cabinet size
Posted by little.h on Tue, 06 May 2003 00:03:03 GMT
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First, thank you so much for your help Wayne. Second, should port diameter and length be adjusted based in the size of the cabinet? Or can I use the calculated measurements for any size cab?

Subject: Helmholtz formula
Posted by Wayne Parham on Tue, 06 May 2003 03:39:12 GMT
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The Helmholtz frequency is determined by the following formulas:So as you can see from the formulas, if you change the cabinet volume (Ve) and still want the resonant frequency to stay the same, you'll need to change port dimensions.