Subject: The allowable group delay in bass guitar cabinet
Posted by Gabriel on Wed, 06 Aug 2003 23:15:52 GMT
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Hi,I'm now trying to build my own bass guitar cab, and have some question about group delay in vented enclosure. Can anyone inform me the maximum allowable group delay in order to get the good bass sound from bass guitar? I have try to design the closed box with my speaker that have a very good transient, but can't get any bottom end from my bass guitar.Any reply will be appreciated.Thank's in advance.Regards,Gabriel

Subject: Re: The allowable group delay in bass guitar cabinet
Posted by Wayne Parham on Thu, 07 Aug 2003 03:14:41 GMT
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Unless you are setting up a multi-speaker system, I don't think group delay in the bottom octave will be of much significance to you when building a bass-guitar speaker. Go for an alignment that gives you the response that you want, has good bass extension, and use a motor that doesn't distort much even at high output levels. Those are the things that are always important, and I think you'll find those are the things that will matter to you the most.

Subject: Mr. Wayne, yes I'm doing a multi speaker system, please help me
Posted by Gabriel on Thu, 07 Aug 2003 08:53:30 GMT
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Dear Mr. Wayne,Yes, now I'm currently try to build a full range system and a sub. Where there are two completely different speaker work in the same frequency. My woofer is 35-500Hz, and my sub about 28-425 Hz, so I'm really worried with the group delay that maybe will weaken the bass system (out of phase??) Please help me.Regards,Gabriel

Subject: Relevant info
Posted by Wayne Parham on Sat, 09 Aug 2003 20:04:13 GMT
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The relevant issue is constructive summing in the listening area. If outdoors or in a large space,

it harder to group things close enough together to meet this condition.The first thing you must concern yourself with is on-axis summing.  This is mostly a function of path length, although there are other sources of delay too.  But regardless of that, you must get the arrival times from each subsystem the same on-axis.The second thing you must concern yourself with is off-axis

However, this is rarely the case.  More often than not, they are vertically stacked so that path lengths remain the same with movement along the horizontal axis, but not along the vertical.  This results in nulls forming at vertical angles above and below the forward axis.  The position of the nulls is determinbed by the vertical spacing between sound sources and the frequency of sound they both generate.The third thing that may present itself is interaction with reflections from boundaries.  This is usually only an issue indoors, although it will also happen outdoors near large walls or other obstructions.  The sound reflected back from boundaries interacts with direct sound, and this causes pockets of sound to form in the listening area.  If the walls are rigid and not well damped, room modes can be significant.  In this case, there is no way to get sound sources within

multiple distributed subs.For more information, see the post called "Phasing and subsystem delay."

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Subject: Thank's, Mr. Wayne
Posted by Gabriel on Sun, 10 Aug 2003 12:38:40 GMT
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