Subject: Cone versus compression driver midrange
Posted by mikebake on Wed, 14 Jul 2004 19:47:23 GMT
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Howdy Wayne and all;Yes, I am still alive.Seems like I recall this discussion somewhere from way back, and it boiled down to cones have nearly always lower distortion, and also that some still prefered the sound of the compression midrange. What are the facts here?

Subject: Re: Cone versus compression driver midrange
Posted by Wayne Parham on Wed, 14 Jul 2004 21:53:06 GMT
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Middle C is 260Hz, and vocalists easily sing an octave below that. So the vocal range starts pretty low, and to me, it's nice to cover the range with a single driver. To hit the low notes takes a device that's pretty large.There are several issues at play here, but after all, both compression drivers and cone drivers have electromagnetic linear motors connected to diaphragms. So for each, there's diaphragm strength, shape and weight, suspension and excursion, motor strength and magnetic symmetry. I don't know if you would consider phase plugs to be part of the comparison, but since the diaphragm shape affects phase plug shape, maybe it should be. And then there's also cost to think about.The strength of compression drivers lies mostly in their diaphragm construction. They're designed to be used under high compression, so the diaphragms are made strong. They're often built with a phase plug, so they are able to extend HF response. The strength of cone drivers is in their larger size and greater excursion. They also have more flexibility of magnet structures due to size. There are many large-format mid drivers with flux stabilization rings, and that really reduces distortion.

Subject: Re: Cone versus compression driver midrange
Posted by wunhuanglo on Wed, 14 Jul 2004 22:40:39 GMT
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measurements by freddyi
http://home.earthlink.net/~buddhaboy2/446hz.jpg

Subject: Re: Cone versus compression driver midrange
Posted by Wayne Parham on Wed, 14 Jul 2004 23:53:22 GMT
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Great link, thanks!Check out the second and third harmonics. Using a shorting ring would reduce the 2nd another 10dB.

Subject: Re: you tell me
Posted by Bill Martinelli on Thu, 15 Jul 2004 02:19:47 GMT
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Hey, fabulous Baker boy. Whats shakin in mid OH?You have the same cone loaded mid horns I have. Have you heard a compression driven mid that competes with it yet?bmar

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Subject: Re: Cone versus compression driver midrange
Posted by Mike.e on Thu, 15 Jul 2004 04:05:53 GMT
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To me it almost seems immoral to use compressiondrivers too low!especially after reading on the forums the facts..

Subject: Re: Cone versus compression driver midrange
Posted by Adrian Mack on Sat, 17 Jul 2004 15:07:03 GMT
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I have personally only used compression drivers for the HF, but I use a cone driver for my midrange horn covering the (take a guess) midrange. I would say that either properly implemented would sound great. For example, the Commmunity M4 compression midrange driver, I've seen heaps of good feedback on that driver. Then again, a cone driven midrange horn also sounds really sweet, if optimized correctly for the intended application. One thing I should point out is probably cost - the community driver is a good few thousand dollars if I recall correctly, and most good compression drivers also cost a stack of money, especially if you're looking at ones designed to cover the midrange. The parts and technology is so expensive. On the other side, cone drivers cost next to nothing compartively and sound superb too when mounted to a horn, and you get the other benefits that Wayne mentioned such as greater excursion etc. So for me, I'd always go for a cone driven midrange horn, because they can be built for so much less $$$ but dont compromise quality!

Subject: Re: you tell me

Posted by DRCope on Tue, 27 Jul 2004 12:36:39 GMT
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Cone loaded mid horns?! I can't even picture that. Might it be horn-loaded cone mids?Tell me more, tell me more . . . . got pix, either here or on woodhorn.com?

Subject: Re: JBL horn
Posted by Bill Martinelli on Tue, 27 Jul 2004 23:39:54 GMT
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DAVE !Hows it going. I hope you had a good camping trip. I'm going up to Loon Lake in the adirondacks next week. Bringing tube amps and turntable to boot!This is a JBL horn with an 8" JBL M209-8a cone driver. I believe it is rated from 200-2000hz. It doesnt sound good bellow 400hz so I use it from 500-1700hz. The small horn is marginal, but I use it for a supertweeter and it performs quite well.The wooden mid horns are nice too. I'll have a new version for CES this year with a cone loaded/hornloaded cone. I am pretty partial to this driver and have not had time to use it in the new mid horn yet. I'm sure I'll build up a pair for myself pretty soon. Bill

Subject: Re: JBL horn
Posted by mikebake on Mon, 09 Aug 2004 14:45:42 GMT
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Do I follow you right? You are going to use the M209 in a horn of your own design?

Subject: Re: you tell me
Posted by mikebake on Mon, 09 Aug 2004 14:48:10 GMT
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Not really, I guess, but there is a lot I haven't heard. I thought I remember that compression mids, while often sounding great, measure much higher than cones for distortion.

Subject: Re: JBL horn
Posted by Bill Martinelli on Tue, 10 Aug 2004 00:07:13 GMT

Just for myself Mike, I'm retiring.