Subject: Here we go again. Merits of 2" compression vs cone midrange
Posted by GarMan on Mon, 31 May 2004 20:09:04 GMT
View Forum Message <> Reply to Message

Sorry to bring the same subject up again, but I'm looking for a bit for information for a question I brought up a few months ago. I'm looking for some more feedback on using cone vs compression for the midrange.Is there any noticable difference in the sound produced by these two types of drivers, and if so, how would you describe the difference?Here's a "hypothetical" situation. Let's say you start with a driver like the JBL 2235, which a lot of you have agreed is a pretty decent cone. Would you cross it low, at say 200Hz to a cone midrange, or would you cross it a little higher at 800Hz, with a 2" compression like the JBL 2445?I'm found a lot of arguments on this board for the cone midrange, but there must be some merit to the 2" compression.thanks,Gar.

Subject: Re: Here we go again. Merits of 2" compression vs cone midrange
Posted by Adam on Mon, 31 May 2004 21:30:51 GMT
View Forum Message <> Reply to Message

I think my personal preference would lean towards a cone midrange... Lower frequency cut off, more power handling... Also gives the option of not having to use a horn, and using different cone materials besides the usual titanium. I find the midrange on compression drivers to be less clean and present then that of cones. Also, a cone mid will also allow you to cross over much lower. A big disadvantage with crossing over a compression driver in the 800-1,600 Hz range, is that range is a critical vocal region, and putting a crossover point in that region is not ideal. A cone driver can cover the entire critical range on its own, whereas a CD will need augmentation.Just some thoughts.Adam

Subject: Re: Here we go again. Merits of 2" compression vs cone midrange
Posted by HenryW on Tue, 01 Jun 2004 00:45:25 GMT
View Forum Message <> Reply to Message

Well - I for one am a horn guy. I really like the cone mid range sound and intellectually buy in to the Xover not being in such a critical frequency range. But when my ear hears them side by side the cone starts to sound a tad less dynamic and the brain says the sound is soft (in places).I would take a shot at maybe a 500hz compression/horn as an alternative if I want to hit a bit of that lower freq with the mid. I do enjoy many variations of mid horns that Xover in the 500 - 800hz range, so I could probably be a 'registered' biased person...

Subject: Sketchy about crossover points
Posted by GarMan on Tue, 01 Jun 2004 01:38:53 GMT
View Forum Message <> Reply to Message

I thought about the crossover points too, between the cone and compression. But I'm still a little sketchy on what is considered the forbidden area. Some say stay away from 315 to 2500, so the cone makes more sense than the compression.But other readings say vocal fundalmentals starts at 80 and is pretty much finished by 1200. If that's the case, wouldn't the crossover point of a cone midrange be smack-dap in the middle of the vocal funalmentals and the higher crossover point of a compression make more sense?Gar.Gar.

Subject: Re: Sketchy about crossover points
Posted by Wayne Parham on Tue, 01 Jun 2004 04:29:42 GMT
View Forum Message <> Reply to Message

Vocal fundamentals are from about 100Hz to 1kHz. Middle C is 260Hz, and vocalists can sing much lower than that. An octave lower, C below middle C, is 130Hz and no trouble at all for any vocalist.Medium sized cone midrange drivers are generally up to the task. There are also large-format midrange compression drivers, such as the Community M4, which uses a fairly large diaphragm. It has an advantage of having a diaphragm that is shaped so that a phase plug is fitted nicely. The diaphragm is also very strong.Modern 1" and 2" throat compression drivers are not designed to cover the fundamental vocal range. They just aren't made for that. Small 1" and 2" throat compression drivers are really tweeters, and best suited for use at frequencies above the vocal fundamentals. Some can be crossed right at the top edge of this range, but they're really designed for the vocal overtones and above.

Subject: Re: Here we go again. Merits of 2" compression vs cone midrange
Posted by GrantMarshall on Tue, 01 Jun 2004 10:35:33 GMT
View Forum Message <> Reply to Message

Theres actually 3 options on the plate here:1) compression2) cone3) cone with horn.I picked up the PHL 6.5 inch 1660 and used it without a horn. There is a large difference is power required at 97 SPL for the PHL 6.5 compared to the 105 for the Eminence top horn. With a conical horn mounted the PHL is actually a little stronger than the Eminence horn. It's very close though, therefore easier to balance. I found the sound stage better defined with just the cone though.Power is not a concern for me since my house can shake all night with any of these options. Someone's bound to say it sooner or later. Different people like different sounds. It's too bad it isn't easier to get together for a "sound-off". Lima was about as close to that as I've gotten. Cheers to Mike if his ears are on. They were good events. Hearing is believing.Grant.