Subject: Hey Graeme!
Posted by GarMan on Tue, 01 Jun 2004 20:16:36 GMT
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I was checking out your 12" Kappa project on your DIY site and had a question about a comment you made in the last box:"Attempts at increasing the top end of the 12 were unsuccessful, and as such the boxes exibit some harshness around 2kHz thanks to the 2" HF drivers"I take it that ideally, you'd want to cross the two driver above the the 2.5KHz range, but the Kappa's couldn't be extended that high. That in your speakers, the 2" compressions are taking care of business at 2kHz and is the cause of the harshness.Is this correct?thanks,gcl.

Subject: Re: Hey Graeme!
Posted by GraemeG on Wed, 02 Jun 2004 00:57:15 GMT
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That's basically it. The 2445s have a measured hump around 2k that gets really hard on the ears when pushed hard. I am not a fan of 2" drivers and don't really like crossover points in sensitive vocal areas, so I much prefer the sound of 1" drivers crossed over much higher. The 2x8" box is much more pleasant to listen to at high volumes. I am really aiming at higher crossover points, and hopefully experimenting to be started shortly will achieve that.FWIW most of the problems with extending the top end of the 12s was due to path cancellations due to the small throat area. Using a larger throat (as was done in the 8") probably could have increased the top end range at the expense of overall efficiency. As the boxes were already existing, I concluded that going for smaller drivers was probably easier than trying to redesign and rebuild the 12s.CheersGraeme

Subject: Re: Hey Graeme!
Posted by Bill Martinelli on Wed, 02 Jun 2004 01:28:16 GMT
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That's an interesting take and very respectable. I'll toss in my opinion just to be contrary. I like compression drivers crossed over higher than most people do. I also prefer a 2" driver over a 1", crossover from a cone around 1800hz. The crossover can be done so you have a blend of the two drivers in that range. It can be challenging to get a seamless crossover. I also like just about any diaphragm material other than titanium. Bill

Subject: Re: Hey Graeme!
Posted by GraemeG on Wed, 02 Jun 2004 08:26:17 GMT

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Bill,Fair enough. If no-one had differing opinions, then there would be no stimulus for experimenting and investigating.One of the things that makes audio interesting is that it is so subjective - there is really no 'right' way, you have to please the most individual test equipment - your ears.CheersGraeme

Subject: Re: Hey Graeme!
Posted by GarMan on Wed, 02 Jun 2004 13:57:15 GMT
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Graeme, Bill, thanks for your responses. I think the key message is that people have their own preferences and listening is the best way to determine the right approach for you. Unfortunately, unlike you guys, I don't have exposure to different driver-types for experimental purposes, so, I have to rely on "expert" opinions. Fortunately, there's quite a bit here to draw from.Bill, a couple of questions about your preference. Some 15" cones can't make it up to 1,800kHz. Take it that this approach only works well for woofers with extended range or a system with a dedicated midrange. And in terms of your preference for non-titanimum diaphragms, that would pretty much rule out all JBL compressions. Do the polyester diaphragms in the BMS make that much of a difference?Gar.

Subject: Re: Hey Graeme!
Posted by Bill Martinelli on Thu, 03 Jun 2004 01:56:00 GMT
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Graeme, Gar,I agree that the best part of audio is the subjectivity. So many things can sound good and one is certainly not 'better' than another. Your right about the 15" woofers. I was refering to a system that would have a dedicated mid range cone/horn operating in the 400hz-1800hz range. For a system with out a mid horn, I like to use a woofer that will operate up to 1600hz. Wayne has had good success with a lot of Eminence and JBL woofers in that range and there are others that work well too. I used to like the Ti drivers because they were sharp and detailed. Then after some experimenting with older drivers I found I liked the aluminum and phenolic drivers better still. Its just preferance. The polyester drivers have a more extended range into the upper octave than aluminum. A very nice sounding JBL 2" that you might find second hand at a bargain would be a 2440 or 2441. There are some nice K55 1" phenolic drivers to be had also. These are going to need a little help on the top end and there are lots of super tweeters to choose from that vary in price. Piezo tweeters can be put to real good use as a super tweeter. Fostex makes a bunch, some are very affordable and other are very pricy. There are just tons of combinations that make the blending and voicing of all the different drivers great fun.