
Subject: Transporting 2-way speaker box to Open Baffle

Posted by [ttan98](#) on Fri, 11 Jul 2008 08:04:38 GMT

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I have essentially a JBL speaker system(MR825 model) which comprises 2-way drivers for outdoor pro audio use. The 2-way comprises of a horn with compression driver and a 15" woofer. The bass response from the box does not really go very low, -3dB @ 80Hz.I removed the passive x-over and drove the comp. drive and woofer separately using 2 amps via a digital x-over,DCX2496. The x-over freq maintains at around 1.5Khz using Butterworth filter. Overall the sound was much better than using passive driving from a single amp.I went further by removing the box and put the 2-way on an open baffle(now essentially like a Bastani system) and I found the overall sound did not improve that dramatically, the following was observed:1. Obviously the bass suffered that was not the point I planned to supplement it with sub-woofer.2. The sound seemed more disperse as it was now in an open enironment. That sound was not focus, imaging suffered.I have a small room maybe a box approach maybe better, comments anyone? Wayne, have you tried this before, and what are your observations?Cheers...

Subject: Re: Transporting 2-way speaker box to Open Baffle

Posted by [Wayne Parham](#) on Fri, 11 Jul 2008 16:58:22 GMT

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That's a very interesting experiment, sounds fun. Lots of things changed, the crossover and the cabinet, so I think it might be hard to identify which did which. My hunch is that the crossover change probably had the most effect from about 1kHz up. But going from monopole to dipole would change the directivity below that, and it would obviously decrease bass too.The differences in the crossover will modify directivity, and going from monopole to dipole will change directivity too. They're also likely to change the spectral balance, both directly because of their different filter functions and indirectly because the change in directivity and phase causes different interactions between the drivers.

Subject: Re: Transporting 2-way speaker box to Open Baffle

Posted by [ttan98](#) on Sat, 12 Jul 2008 14:50:51 GMT

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I am not such whether you can give some suggestions on where to start on the x-over design. I promise not to ask you too many questions once you give some suggestions.The current x-over design using digital x-over, is at around 1.6Khz,3rd order Butterworth filter(Hp and LP), the horn I am using is 90*50 degree directivity. This horn is identical to the one used in the econowaveguide at Karma Forum. The woofer is 15" JBL.Any suggestion on a start to x-over design is welcome, eg LR or butterworth and approx x-over frequency.Thanks.many thanks.

Subject: Re: Transporting 2-way speaker box to Open Baffle
Posted by [Wayne Parham](#) on Sat, 12 Jul 2008 16:47:33 GMT
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1.3kHz. Tweeter high-pass is Butterworth third-order at 1.6kHz. It also has CD equalization that looks like this:

Subject: Re: Transporting 2-way speaker box to Open Baffle
Posted by [ttan98](#) on Sun, 13 Jul 2008 05:35:28 GMT
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Many thanks. Your contributions at Audio Karma and DIYAudio forums are acknowledged. I read your post closely and your explanations at most times are clear and understandable.

Subject: <i>AudioRoundTable.com</i>
Posted by [Wayne Parham](#) on Sun, 13 Jul 2008 18:56:17 GMT
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Thanks for your kind words. Please come back to AudioRoundTable.com often. I tend to hang out here most times. People wrote privately asking for comments on various threads on DIYaudio.com and AK, so I replied, in a few cases. But AudioRoundTable.com is where I place most of my attention. With exception of two websites, it isn't that I have a problem with participating on other audio discussion boards. Some of them are pretty cool. But the things is, others have agendas that make them ineffective or downright manipulative. In fact two of them are what I would consider to be dangerously fraudulent. Since I usually don't know what behind-the-scenes alliances there are at each of these other websites, I usually tend to stay here where I know there are no other agendas than finding out what makes good sound systems work best. Watch out for that elsewhere. When you see someone being rude and nothing is done to rein them in, that means the website is probably already compromised. Sometimes they allow that stuff for direct financial motive like payments from advertisers, sometimes for indirect financial motive. Controversy brings traffic which is good for advertising revenue. That's why some of these audio websites allow certain individuals to get away with bad behavior. It draws a crowd like onlookers at a car wreck. Another thing I've seen is people viewed as industry leaders being used as a draw. That's great for everyone if the so-called industry leader is knowledgeable and pleasant. But I've known a few over the years that are just plain rude. There's no excuse for that, in my opinion. In the complex world of today, to get arrogant about sound system technologies is a pathetic sort of ego-compensation. But there are a few of them out there, and some have gathered a handful of followers. Get on a discussion board with one of them, and it's like being around a grade school pack of kids ralleyed around a school bully. Where's the fun in that? So that's why I tend to stay mostly on AudioRoundTable.com. You can look over all of its tens of

thousands of posts and not find a single one that will make you uncomfortable with shilling or rude comments. Even some of the people that are ill-behaved elsewhere have been able to come here and participate in polite and intelligent conversations. The very few that can't aren't here.
