
Subject: Re: Multisubs with Seven Pi corner horns
Posted by [Wayne Parham](#) on Thu, 10 Sep 2009 13:03:13 GMT
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Measurements show the speakers are very smooth in this range so it must be something else. There are definitely a lot of speakers with cone cry in the overtone region, sometimes pretty severe. It's common. But the JBL 2226 and the TD12S are smooth as silk in the midrange through the crossover point.

One thing I find very common is people think they can hear breakup in a large driver simply because they expect it should be there. This is probably due to the fact that some (perhaps most) large drivers have terrible breakup, causing people that are exposed to them a lot to form a Pavlovian reaction to all large drivers. It's a conditioned response. Whenever they see a large driver, their expectation of it to sound bad at high frequencies is more than just a simple preconceived notion, it is an actual physical reaction.

This is a real phenomenon that is repeatable and can be shown by demonstration or experiment. When a person hears or sees something repeatedly, it is sort of "burned" into their brains and they will always expect it. They will have physical reactions to what is actually an expectation. So you can quite literally have a reaction by just seeing a large woofer, because of others in the past, even if the one you are listening to is flawless. However, if I put the speaker behind a curtain, you will no longer experience the reaction because you cannot see it.

The JBL 2226 and AE TD12S woofers have smoother response between 500Hz and 1.5kHz than many 8" and 10" drivers. There are many 8" and 10" drivers that have good midrange response but my point is that there are also some 8's and 10's that don't. For that matter there are some 5" and 6" drivers that don't either, especially those with polypropylene or metal cones. Breakup is largely determined by diaphragm material and shape, not just size. If you were to measure a lot of drivers, you would see what I mean.

The thing is, like I said, it is very common for people to expect breakup in larger woofers in a very real psychoacoustic sense. It isn't that they have bad hearing, in fact, it is their good hearing that setup the Pavlovian reaction in the first place. But when they encounter a good woofer, they then do not recognize it as such. If you were to see measurement data and listen to the sounds that correlated with the charts, you would begin to develop a different set of responses eventually, essentially changing your conditioned responses to more closely correlate with what you hear.