Subject: Re: Compression Drivers
Posted by Wayne Parham on Mon, 29 Jul 2013 17:22:54 GMT
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Update:

Earlier in this thread, there was some discussion about a supposed change in the B&C DE250 driver. I attributed it to unit-to-unit variations and sensitivity of some crossover topologies to driver parameter shifts.

Some had noticed Earl Geddes claimed the DE250 had been changed, and so his crossover needed to be changed too. B&C indicated there was no change in the driver, and I found none either, at least not recently, not since the mid 2000s.

The reason for the different positions on whether or not the driver had been changed was a consequence of how the drivers were used. That was my assumption, that people using crossovers sensitive to parameter shifts would see variations in drivers more strongly.

Today, Earl and I were having a discussion on a different forum, and he admitted that unit-to-unit driver changes cause him to need to modify the the crossover occasionally. This is how he deals with driver parameter variations. Geddes says he tests each speaker, so he can catch the unit-to-unit shifts.
Parameter shifts that require Geddes to redo his crossoverFor anyone that was confused by Geddes earlier comments, this should serve to clarify that there was no recent change in the DE250 other than what is normally seen as unit-to-unit variation.

Notch filters are very sensitive, as they must match the driver/horn characteristics exactly. Since the driver will change, both from thermal shifts and unit-to-unit variations, the required notch filter must also. Using that approach, one would almost have to make each crossover specific to the driver it was used with, not just different for each model, but actually different for each driver. Even then, it is only right at one power range. Set it for lower power levels, and it is not correct at high volume and vice versa.

The Pi network used in our crossovers is specifically designed to be tolerant of parameter shifts,

Speakers crossover, it is very robust.
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Tweeter circuits for constant directivity horns and waveguides
Crossover configuration
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