Subject: Re: JBL2226j and DH1A in modified 4pi help
Posted by Wayne Parham on Tue, 27 Aug 2013 00:21:48 GMT
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You can use notch filters for impedance compensation, but I have found them to be less than satisfactory. If the impedance peaks were consistent in frequency and amplitude, then notch filters would work very well. But the problem is you cannot expect unit-to-unit consistency, and in fact, you cannot even expect the peaks to stay the same place at different power levels. So I tend to avoid tuned circuits as dampers, and use non-resonating dampers instead.

If the impedance peaks are below the crossover point, it is possible, even likely, that they can be disregarded. That depends on how large the peak is and what the stop-band impedance of the filter is. But typically, the impedance peaks of compression drivers on horns is in the range of 2x to 4x above nominal. So the stop-band impedance is high enough peaks below crossover usually don't cause a problem. That depends on how far into the stop band they are.

When the peaks are near crossover or above it, they definitely need to be damped. If they're within the crossover overlap region, then the crossover itself can be used to damp the peaks. The same resistors used to provide padding can be used as snubbers. If the peaks are above crossover, then the padding resistors may not be the best place to do the damping, since their values have to be used to provide mass-rolloff compensation and are therefore in a certain range. But in this case, you can usually just use a snubbber resistor placed directly across the compression driver. It should be sized about 2x the DC resistance of the compression driver.
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