Subject: Re: Long term test results for BSC circuit.
Posted by Wayne Parham on Sun, 29 Feb 2004 23:15:47 GMT
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I think I would have to agree with Akhilesh on an academic level as well as on a subjective level. I've both heard and measured his single driver speakers and while I can certainly respect the minimalist philosophy, some speakers are more suited to that approach than others. I've heard implementations of the Fostex 206e that were pleasant without compensation, but I think many single driver speakers would benefit from compensation components in the circuit.Akhilesh's Trusonic drivers enter a mode where cone flex resonance greatly increases output in the vocal range, just below the overtone region. I'm sure the cone has entered breakup an octave or two below this point, but it is in the upper fundamentals of the vocal range where output really jumps. So the addition of a simple circuit that reduces energy in this region makes the system more pure. Augmentation of the top octave for his speaker is welcome too, which in his case, is accomplished by the addition of a tweeter. The main driver's response is too rolled-off in the top octave to effectively augment with bypass capacitance in the compensation circuit.I'm not sure I would characterize this sort of compensation as being purely baffle correction circuitry, although in some cases, it might be. But I think that often times it is more general response shaping, removing energy in breakup mode regions, adding it back where response has fallen off, etc. However you characterize it, I think that in some cases, the use of a simple and subtle low-Q low-pass filter, sometimes bypassed with capacitance for top-octave augmentation, is an attractive option for some single-driver speaker implementations.As I've seen Martin suggest, selection of these components is a non-trivial task. Don't just grab parts that you have lying around to "test the idea" because if the response shaping is wrong, you'll make the situation worse. And since the amplifier's output is part of the circuit, you have to take that into consideration too. A semiconductor amp probably has output impedance well less than an ohm, but a tube amp may have several ohms in the output circuit. So it is very important that compensation components be chosen carefully, that their effect is subtle.