Subject: Mechanical resonance of speakers
Posted by Wayne Parham on Wed, 14 May 2003 08:45:33 GMT
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I've made the observation that speakers' distortion rises as frequency drops. Intermodulation distortion rises and harmonic distortion generally does too. Flux stabilization rings tend to lose effectiveness as frequency drops, and devices intended for use as midwoofers and full range speakers are not usually designed for use at subwoofer frequencies. In general, most designs layout the motor so that the shorting ring is effective to within about an octave of mechanical resonance. That's why I've mentioned the trade-off of bass-extension verses distortion. You can reduce distortion by configuring the system so that the midwoofer is used above resonance, and not at subwoofer frequencies.