Subject: Re: Relationship Between X Max And Efficiency Questions
Posted by Wayne Parham on Sat, 09 Jun 2007 20:23:27 GMT
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I agree with Bob about room lift and the desired response curve of the box in free air. The desired free air response should be the conjugate of room gain. That generally suggests an overdamped or EBS alignment when used indoors, particularly if corner loaded.About excursion: As Bob said, excursion rises rapidly as frequency goes down. Because of this, a driver is almost always limited mechanically at subwoofer frequencies. A driver is usually thermal limited at midbass frequencies up through the audio band. But at deep bass frequencies, the limit is excursion. For home hifi, even power hungry metalheads are usually satisfied with the SPL of high-efficiency woofers without pushing them past their limits. Most just don't need the SPL that would drive them to over-excursion. But you might crave it. If so, excursion will be the limiting factor for a high-efficiency woofer at very low frequencies. That's an application where you might choose a woofer with higher excursion. The decision point should be the limits: What SPL is required at what frequency, and what it will take to do that.