Subject: Re: Alpha 10 modeling
Posted by Wayne Parham on Tue, 20 Dec 2011 19:51:47 GMT
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Make sure you are band-limiting when you check the numbers. If you look at the mechanical limits below 30Hz or so, they're very small because the cone is unloaded below the Helmholtz frequency. Also check the easy (but easy to miss) stuff like metric verses imperial and make sure you aren't off by a decimal point.

What you should see is thermal limits exceeding mechanical limits except below the Helmholtz frequency. There's a range just above Helmholtz where the mechanical limits dip, but they never dip below 100 watts anywhere in the passband (above 35Hz). Below the passband, the limit is mechanical and can be reached with little input because the cone is unloaded. From 35Hz to 50Hz, excursion is greatly reduced and so the limit is thermal. In between about 50Hz and 60Hz, the two limits (mechanical and thermal) are very close to the same. Above 70Hz the limit is thermal.