Subject: Re: Motors
Posted by Wayne Parham on Sat, 05 Jul 2003 01:34:18 GMT
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Qms is a term that desribes mechanical damping, much like the shock absorber on a car. Qes describes electrical damping, and is the ratio of series motor circuit resistance to the square of BL, an indicator of motor strength. The two are combined to form Qts, because they are parallel reactances. That's why speakers that require electrical motor damping aren't particularly good to use with amplifiers having low damping ratios. They can't effectively control the cone, and the values of Qes and Qts are highly effected by the amplifier's output impedance.There are equations that use Qts and Qms to find the value of Qes, and vice-versa. Since the speaker is a system that includes both mechanical and electrical reactances inter-related in the form of Qts, you can use any two terms to find the third. But Qes and Qms are caused by two completely different things, and are related together as Qts because they are part of the same system.