Subject: What makes a driver efficient?
Posted by Ralph on Tue, 24 Aug 2004 23:06:34 GMT
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Other than horn loading, that is. What makes a cone driver efficient?

Subject: Attempt
Posted by Mike.e on Wed, 25 Aug 2004 03:54:50 GMT
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Basically youl notice- Home theatre subs are are inefficientSmall box subs are inefficient too.Larger drivers tend to be more efficientLower Qts drivers are more efficientProsound 12"s and 15"s are efficient,they have higher Fs,Mid Q,and larger box requirements.Efficient cone drivers are often Low Qts high BL(ie powerful and in control) fullranger units with added HF efforts.II) Mid-Band, Reference Efficiency (%)(Infinite Baffle Mounting Assumed)[n0] = ([p0]*[Bl]^2)/(2*[pi]*[c]*([Sd]^2)*[Re]*([Mas]^2))= (4*([pi]^2)*([fs]^3)*[Vas])/(([c]^3)*[Qes])Youl notice its fs^3 * vas. Equations at the link
Is there a mathematical correlation to no% and sensitivity?

Subject: Re: What makes a driver efficient?
Posted by Manualblock on Wed, 25 Aug 2004 13:45:16 GMT
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Huge and powerful magnet, light cone, big voice coil.

Subject: That's pretty much it
Posted by Bill Fitzmaurice on Wed, 25 Aug 2004 14:22:33 GMT
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Its a matter of how well the driver can convert electrical energy into cone motion. Think of the magnet/voice coil as a motor; the larger than magnet, the smaller the voice coil gap and the better the voice coil topology the more power the motor is able to develop from the energy fed into it by the amp. Then that power has to move the cone. The less resistance the cone has to movement(caused by the combination of its mass, the stiffness of the suspension and a few other factors) the easier the job the motor has moving it. It's like a car- big motors in small cars equal fast; small motors in big cars equal slow. BUT- what it takes to gain efficiency also can lead to a loss of response in the bass end, as both the lower Qts of a strong motor and the higher Fs of a

light cone limit bass response.

Subject: Formula
Posted by Ralph on Thu, 26 Aug 2004 00:12:04 GMT
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Thank you very much for the formula and link.Ralph

Subject: Power to weight ratio
Posted by Ralph on Thu, 26 Aug 2004 00:14:37 GMT
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Thank you manualblock and Bill. That is simple and to the point and it makes sense.Ralph

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