Subject: Voltage and Power
Posted by Wayne Parham on Fri, 31 Oct 2003 04:17:37 GMT
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A horn increases electrical impedance of the driver through the horn's passband, which increases the voltage limit but not the power limit. Unless you're doing something to dissipate the heat from the voice coil windings, you still have the same power limits there. Nothing changed the structure of the motor; You may get more output per watt and you may increase impedance, but you won't increase the motor's ability to dissipate power.To use your light bulb analogy, it's like having a reflector or lense that focuses the light and makes it brighter in one spot. You may not need as much power to get the same amount of light in a concentrated area. And you may even be able to reduce the voltage input to the light bulb and get the same candle-power at a specific pinpoint location. But if you increase current through the filament past the limit of the bulb, you'll burn it out whether you have the reflector installed or not. Same thing with the speaker motor, whether installed in a horn or not.Again, even with increased efficiency, we're still talking about a large amount of heat in the motors of a high-power horn. With excursion reduced because of horn loading, it is questionable whether the woofer's venting is as effective.