Subject: Re: Theater series Four Pi
Posted by Wayne Parham on Mon, 22 Apr 2002 19:08:16 GMT
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One thing that is very important for good sound on low-power SET amp is how the woofer acts at resonance. All speakers have an impedance peak when driven at their resonant frequency. This condition is also associated with back-EMF and amplifiers with lower damping factor are less able to control the motor; Particularly troublesome are those with greater impedance peaks, which are then creating more back-EMF.When you put a speaker in a cabinet, it changes this peak and makes the speaker have a different impedance curve. Sealed cabinets tend to shift the peak up in frequency. Reflex cabinets create two peaks, both having less impedance than the single free-air peak. Horns and transmission lines create multiple peaks, generally lower in amplitude than the free-air peak, depending on flare shape and rear chamber.Impedance fluxuations cause problems for tube amps, altering their response curve. The speaker impedance forms a voltage divider with the amp's output impedance, and if the ratio of impedances fluxuates, then the power transfer does too. So to make a long story short, if you have a small signal tube amp, you'll want to find a speaker with a low impedance peak at resonance, somtimes referred to as "Zmax."