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Subject: Re: Cool.

Posted by [Adrian Mack](#) on Mon, 15 Sep 2003 06:22:16 GMT

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Hey Wayne, So it seems that the sealed box shifts resonance upward. The resonant frequency of the box/woofer system is  $F_0$ . But does this shift  $F_s$  upward too..... ? I'd assume that any ringing will occur at  $F_0$  too, where the electrical impedance peak is. If the box shifts  $F_s$  up to form box resonance  $F_0$ , then we can say that  $F_s = F_0$  in a sealed box. So  $f_s$  may be 20Hz free air,  $f_s$  may be shifted to say 40Hz in a sealed box. All motors are more uncontrolled near resonance. If the new  $F_s$  is 40Hz, that's pretty bad because instead of being uncontrolled at 20Hz, it's now uncontrolled at 40Hz, which is much higher, and it's also the sealed box resonant so that means it will be more uncontrolled and also ring at the same time more and sealed box resonance is usually in the passband too which makes it even worse. The vented cabinet has the Helmholtz resonator too, and it's this frequency where any ringing is. Does the vented box shift  $F_s$  at all? If it doesn't, then that's good because it may be that neither  $F_b$  or  $F_s$  is in the passband. But if a sealed box shifts  $F_s$  upward to box resonance so that  $F_s = F_0$ , that means the motor is uncontrolled at higher freq, and the box is also making it ring here too and usually in the passband. Is this correct? Half correct? The "Frequencies of interest" post says the bass reflex cab has  $F_0$  too, I thought it was only on a sealed, unless we block the port. It says however the enclosed woofers resonant freq in a vented box is  $F_0$ , and is near  $F_h$ , which indicates that the vented box might shift  $F_s$  up to near  $F_h$ . Or something :P Maybe I'm being too picky. Thanks! Adrian

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