Subject: Re: Alternatives to Martin King's spreadsheets
Posted by Wayne Parham on Wed, 16 Jul 2014 16:22:08 GMT

When you tune a box to a certain frequency, you're setting Helmholtz (cavity) resonance using box and port size. In T/S simulations, this is known as fb.

resonance. In truth, both mechanisms are always in play anyway.

If the box is small, then standing waves don't develop at low frequency, and the stuffing inside damps them. Larger boxes allow standing waves to develop at low frequencies, so both cavity resonance and pipe modes potentially occur low enough to affect response.

That's why modeing should include both Helmholtz and standing wave resonance, especially if sound is presented to the box at frequencies above a quarter-wave of any box dimension.