

---

Subject: Re: Barzilay 4pi

Posted by [Wayne Parham](#) on Tue, 07 Jul 2015 15:42:02 GMT

[View Forum Message](#) <> [Reply to Message](#)

---

Sorry, I missed this earlier. The question was asked whether tuning at 38Hz should be modified and increased to 40Hz.

I designed the system for 38Hz tuning. But really, the difference in response that results from a Helmholtz frequency of 40Hz is so slight, it almost is undetectable. Just a smidge in the response below 100Hz. I'd consider the "difference" to be so small as to be overshadowed by tolerance, driver operating parameter shifts, etc. So don't worry about increasing the Helmholtz frequency a couple Hertz. It won't do anything.

What I am always concerned about are response anomalies caused by internal standing waves. That's what I'd watch for, and why I would want measurements. These would likely be above 100Hz, in the 100Hz to 300Hz region. I'd look for blips and ripples in response. They can usually be mitigated by port and/or midwoofer driver placement, and by proper placement of damping material.

But we cannot really know how this modified Barzilay cabinet acts without measurements.

So if you have the time and inclination, get some measurement software, take the cabinets outside and measure one of them. Lie it on its back, facing upwards and hang the microphone above it. Put it in a pit or create a baffle extension, something that extends the face of the speaker out a long way to prevent a delayed reflection off the ground under the speaker. Watch for ripple in the 100-300Hz region.