Subject: Re: DSP for subwoofer(s)
Posted by Wayne Parham on Mon, 21 May 2018 14:58:52 GMT
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I've run vinyl for decades, and still do. I always thought it was kind of fun to crank up the speakers and watch the cones move at VLF where they are unloaded in vented cabs. Long before the days of computer modeling programs, I noticed some (too small) vents chuffed when that happened. It became a useful real-world test for excessive vent airspeed.

That said, even with RIAA equaliztion, the VLF content (even from badly warped albums) is pretty small. I've never damaged a driver with the record-warp VLF even with hundreds of watts of input power. The main thing it causes at high power levels is excessive IMD. But you get that from any sort of VLF content.

So applying a high-pass filter just for records isn't really necessary, but it can't hurt to high-pass at the Helmholtz frequency. This isn't done just for record warps, but for any content below the frequency where the cabinet loads the driver. That has no drawbacks, even when blending mains with multiple subs for modal smoothing.

My general rule is high-pass is optional if the amplifier never reaches above 10% of the maximum power level of the driver. It's just not needed. But if you're pushing the mains hard and there's a lot of bass, it is a good idea to high-pass the mains at the Helmholtz frequency. You'll know if you need it.