

---

Subject: Re: LSAF 2014

Posted by [KJ Knowles](#) on Tue, 25 Mar 2014 21:33:16 GMT

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

---

I have an ongoing personal project/experiment that might be fun to have at LSAF. It would certainly provide me more data points given all of the available victims...errr...subjects that will be there. This is not really a classic DIY project, nor is it intended to lead to a for-profit product. It is just plain, old geekiness (which doesn't mean it can't be fun or informative).

I have experimenting with crossover functions using FIR filters. I'm trying to determine how a system incorporating them is perceived by critical listeners versus more common IIR filter implementations (other factors being equal).

I'm an physicist/acoustician whose work for a large corporation offers me fortunate access to a 50Hz anechoic chamber on those occasions when I am visiting the corporate headquarters. I designed a loudspeaker for the project that met the requirements of traveling with me in a suitcase (barely) on trips to corporate. It has drivers chosen to have bandwidth capability that can accommodate identical crossover points (in this case, 250 Hz, 3500 Hz) for both filter types.

I have set up the DSP processing so that I can change from FIR to IIR filtering on the fly in order to allow a listener(s) compare the two approaches. I have professional acquaintances give it a listen when the opportunity arises, but it would be great to have LSAF attendees do the same and see what the preference numbers are for a larger sample.

The speakers are not intended to be the last word in high end fidelity, but I don't think anyone will run out screaming with their hands over their ears. Loudspeaker system design is not exactly new for me.

I would record the preference by listener, but not report how the final numbers fall out until after the event. What do you think? Is it interesting enough to be worth doing?

KJK