

"The World Beyond 20kHz" by David Blackmer

I've known for awhile now that the currently standard sampling frequency of 44.1kHz puts limits on the sonic fidelity of recordings. Blackmer's article, though, made me realize for the first time the exact motivations behind the 96kHz+ argument. My shortcoming was that I had always assumed that the push towards a higher sampling frequency was for something in the frequency domain; this article, however, made me realize that the need for a higher sampling response arises from the time domain (phase linearity, for example). More specifically, it is the slow impulse response (the time it takes to respond to an input) of many audio systems today that limit their fidelity.

I guess the main way that this article ties into our digital audio process seminar is superficially that it argues for a higher sampling rate. This much is obvious. The deeper point brought up by this article, however, concerns the unending search for audio perfection. Perhaps it may seem defeatist to say so, but it seems that once a technological standard has been established in the music industry, it is not long before consumers, engineers, and artists are clamouring for more; whether this more is in the form of more surround speakers, higher sampling rates, or increased user flexibility, the theme of continued improvements and accomplishments remains the same. This notion of constant development is actually the focus of my article abstract this week, entitled "The Future of Audio."

In conclusion, I was glad I got a chance to read this article. It cleared up a lot of questions about the nature of human hearing. I also thought it was oddly ironic that it is the phase accuracy of low frequencies which plays an important role in the higher sampling frequency since I was always under the impression that the higher rates were related to ultra-high tones. I guess the only thing left to do is buy a pair of those Earthworks microphones!