



DITHER AND OVERSAMPLING

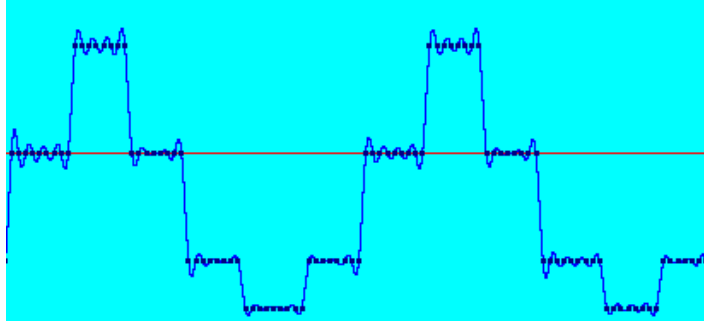
Additional techniques for practical digital audio



Dither

- Sometimes rounding error is correlated to signal.
- Add analog noise prior to quantization to decorrelate rounding.
- Typically, noise has peak-to-peak amplitude of one quantization step.

Heavily Quantized, Undithered Sinusoid

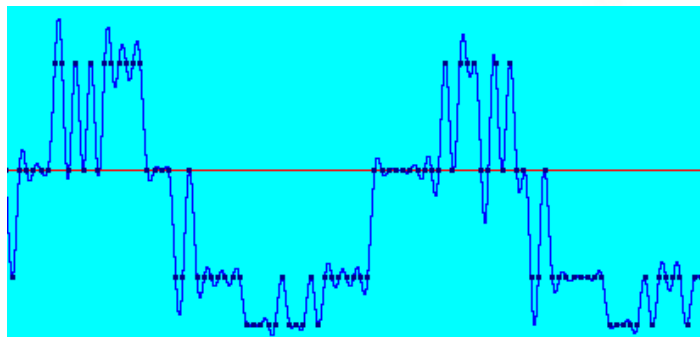


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Sinusoid With Dithering



No dither 

Dither 

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Oversampling

- Reconstruction filters are hard to build with analog components
- Idea: digitally reconstruct signal at high sample rate
- Result: simpler to build analog filter

Oversampling (2)

