



# Evaluation of perceptual sound compression with regard to perceived quality and compression methods



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## Category 1: Lossless sound codecs

- compression ratio: 0.75 .. 0.50 relative to 1.0

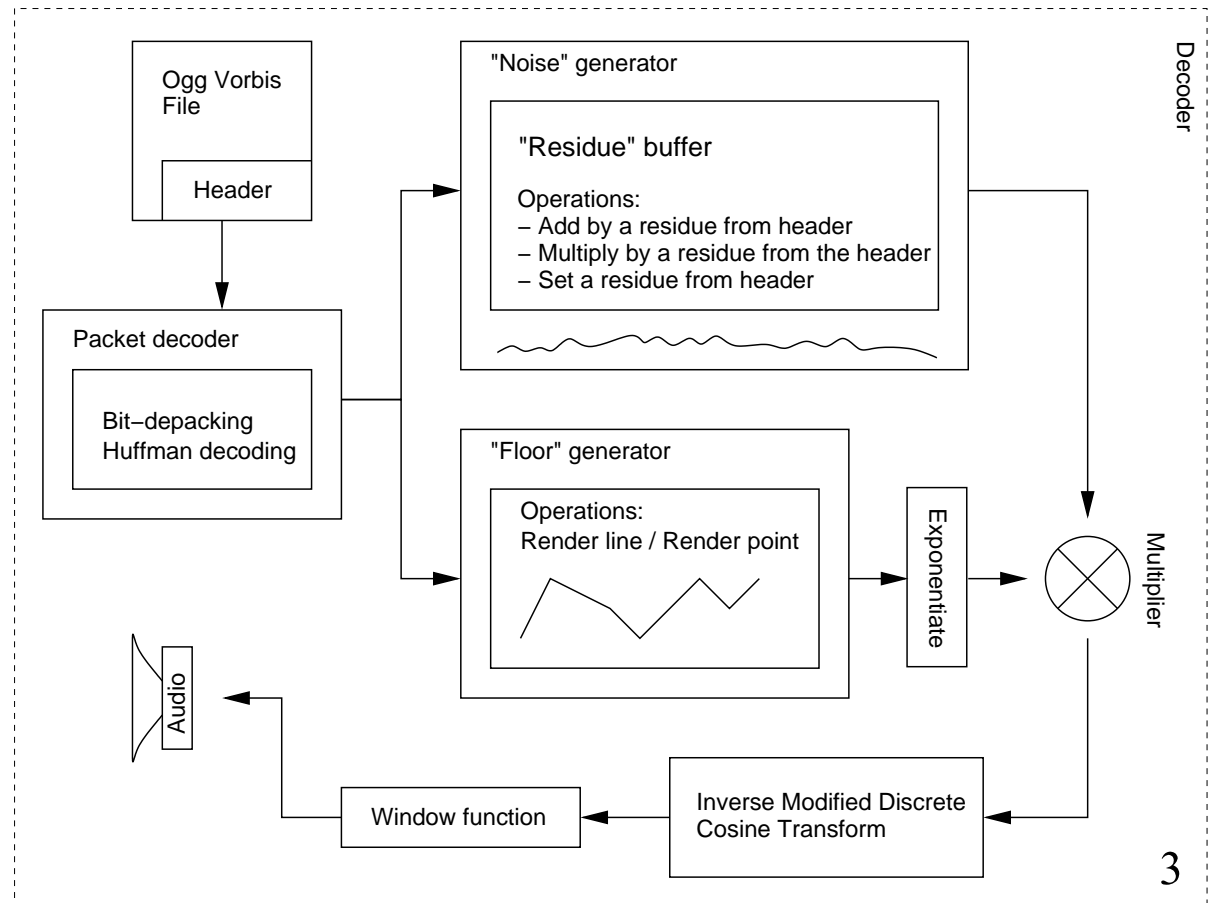
## Category 2: Lossy sound codecs

- compression ratio: 0.10 .. 0.04 relative to 1.0
- Ogg Vorbis (<http://www.vorbis.com>)
  - opensource
  - BSD licensed



# Compression techniques

- bit-packing
- huffman coding
- windowing
- modified discrete cosine transform



## Evaluation of perceived quality

- Ogg Vorbis sounds good at higher bit rates (64-128kbit/s)
- Ogg Vorbis has problems with "S" sounds at low bit rates (24kbit/s)

### Test streams:

<http://www.nrk.no/lyd>

<http://malxstream01.nrk.no/nrk-alltid-nyheter-128.ogg>

<http://159.33.6.141:80/cbcr1-toronto.ogg>

