

ESTIMATING RATE CONTROLLING PARAMETERS IN PERCEPTUAL AUDIO ENCODERS

ABSTRACT

Perceptual audio coder refers to audio compression schemes that exploit the properties of human auditory perception. The coder allocates the quantization noise below the masking threshold such that even with the bit rate limitation, the noise is imperceptible to the ear. These distortion and bit rate requirement makes the bit allocation-quantization process a considerable computational effort. One method includes incrementally adjusting a global gain according to a gradient. The gradient could be adjusted each time the number of bits used to represent a quantized value is counted. Another method includes limiting a rate controlling parameter to a predetermined number of loops. The method could also include deriving a global gain to ensure exit from the loop. Accordingly, embodiments of the present disclosure provide a fast and efficient method to derive the rate controlling parameter and can be applied to generic perceptual audio encoders where low computational complexity is required.

FIG. 3