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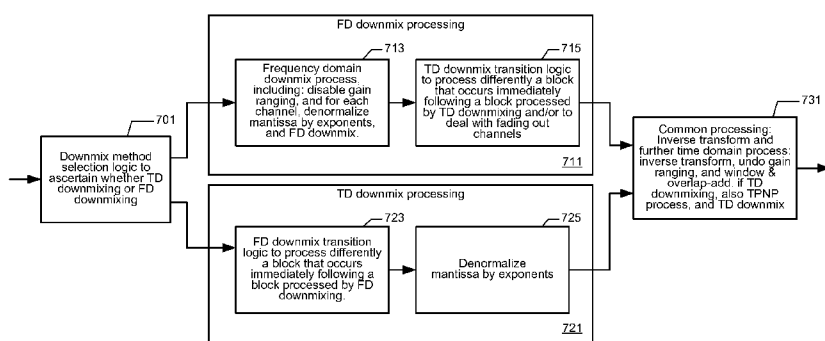
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(54) **Title:** AUDIO DECODER AND DECODING METHOD USING EFFICIENT DOWNMIXING

FIG. 7



(57) **Abstract:** A method, an apparatus, a computer readable storage medium configured with instructions for carrying out a method, and logic encoded in one or more computer-readable tangible medium to carry out actions. The method is to decode audio data that includes N.n channels to M.m decoded audio channels, including unpacking metadata and unpacking and decoding frequency domain exponent and mantissa data; determining transform coefficients from the unpacked and decoded frequency domain exponent and mantissa data; inverse transforming the frequency domain data; and in the case M<N, downmixing according to downmixing data, the downmixing carried out efficiently.