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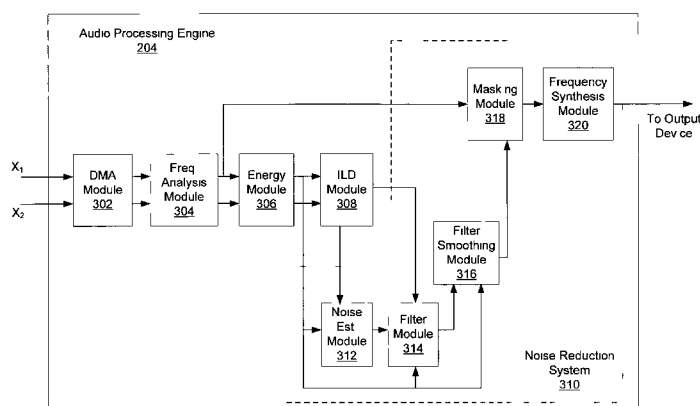
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MENT



(57) Abstract: Systems and methods for utilizing inter-microphone level differences (ILD) to attenuate noise and enhance speech are provided. In exemplary embodiments, primary and secondary acoustic signals are received by omni-directional microphones, and converted into primary and secondary electric signals. A differential microphone array module processes the electric signals to determine a cardioid primary signal and a cardioid secondary signal. The cardioid signals are filtered through a frequency analysis module which takes the signals and mimics a cochlea implementation (i.e., cochlear domain). Energy levels of the signals are then computed, and the results are processed by an ILD module using a non-linear combination to obtain the ILD. In exemplary embodiments, the non-linear combination comprises dividing the energy level associated with the primary microphone by the energy level associated with the secondary microphone. The ILD is utilized by a noise reduction system to enhance the speech of the primary acoustic signal.

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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No		
Y	US 2003/0147538 A1 (ELKO) 07 August 2003 (07 08 2003) entire document	1-26		
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