Title (en)

SYSTEM FOR ADAPTIVELY FILTERING AUDIO SIGNALS TO ENHANCE SPEECH INTELLIGIBILITY IN NOISY ENVIRONMENTAL CONDITIONS

Title (de)

SYSTEM ZUR ADAPTIVEN FILTERUNG VON TONSIGNALEN ZUR VERBESSERUNG DER SPRACHVERSTÄNDLICHKEIT BEI UMGEBUNGSGERÄUSCHEN

Title (fr)

SYSTEME DE FILTRAGE ADAPTATIF DE SIGNAUX AUDIO DESTINE A AMELIORER L'INTELLIGIBILITE DE LA PAROLE DANS DES ENVIRONNEMENTS BRUYANTS

Publication

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Application

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Abstract (en)

[origin: WO9710586A1] A method and system are provided for adaptively reducing noise in frames of digitized audio signals that include both speech and background noise. Frames of digitized audio signals are passed through an adjustable, high-pass filter circuit to filter a portion of background noise located in a low frequency range of the digitized signal. The filter circuit is adjusted by a filter control circuit adapted for a current frame to exhibit a selected frequency response curve. The filter control circuit includes a speech detector for detecting the presence or absence of speech in the frames of digitized audio signals. The filter circuit is adjusted when no speech is detected in the current frame. In a first preferred embodiment, the filter control circuit controls the filter circuit by calculating a noise estimate corresponding to the background noise, and adjusting the filter circuit based on the noise estimate. As the noise estimates increase, the filter circuit is adjusted to extract increasing amounts of energy falling in low frequency ranges of speech. In a second preferred embodiment, the filter circuit is adjusted as a function of a noise profile estimate. A noise profile estimate for a current frame is determined as a function of speech detection and is compared to a reference noise profile. Based on this comparison, the filter circuit is adaptively adjusted.

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IPC 8 full level

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See references of WO 9710586A1

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