

EXHIBIT 11

Attorney Docket No. ALPH.P020

PATENT

IN THE UNITED STATES PATENT OFFICE

In Re Patent Application of:)
)
Gregory C. Burnett, et al.) Examiner: Devona E. Faulk
) Art Unit: 2614
)
Application No.: 10/400,282)
)
Filed: March 27, 2003)
)
For: MICROPHONE AND VOICE ACTIVITY)
DETECTION (VAD) CONFIGURATIONS FOR)
USE WITH COMMUNICATION SYSTEMS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Sir:

This is a response to the Office Action mailed August 17, 2010. Applicant respectfully requests entry of the following Amendments and consideration of the Remarks.

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AMENDMENTS

IN THE CLAIMS

1. (Currently amended) A communications system, comprising:
 - a voice detection subsystem receiving voice activity signals that include information of human voicing activity and automatically generating control signals using information of the voice activity signals; and
 - a denoising subsystem coupled to the voice detection subsystem, the denoising subsystem comprising a microphone array including a plurality of microphones, wherein a first microphone of the array is fixed at a first position relative to a mouth of a user, wherein the first position orients a front of the first microphone towards the mouth, wherein a second microphone of the array is fixed at a second position relative to the mouth, wherein the second position orients a front of the second microphone away from the mouth such that the second position forms an angle relative to the first position, wherein the angle is greater than zero degrees, the microphone array providing acoustic signals of an environment to components of the denoising subsystem, components of the denoising subsystem automatically selecting at least one denoising method appropriate to data of at least one frequency subband of the acoustic signals using the control signals and processing the acoustic signals using the selected denoising method to generate denoised acoustic signals, wherein the denoising method includes generating a noise waveform estimate associated with noise of the acoustic signals and subtracting the noise waveform estimate from the acoustic signal when the acoustic signal includes speech and noise.

Claims 2 and 3 (Canceled).

4. (Previously presented) The system of claim 1, wherein the voice detection subsystem further comprises:
 - at least one glottal electromagnetic micropower sensor (GEMS) including at least one antenna for receiving the voice activity signals; and

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at least one voice activity detector (VAD) algorithm for processing the GEMS voice activity signals and generating the control signals.

5. (Previously presented) The system of claim 1, wherein the voice detection subsystem further comprises:

at least one accelerometer sensor in contact with skin of a user for receiving the voice activity signals; and

at least one voice activity detector (VAD) algorithm for processing the accelerometer sensor voice activity signals and generating the control signals.

6. (Previously presented) The system of claim 1, wherein the voice detection subsystem further comprises:

at least one skin-surface microphone sensor in contact with skin of a user for receiving the voice activity signals; and

at least one voice activity detector (VAD) algorithm for processing the skin-surface microphone sensor voice activity signals and generating the control signals.

7. (Previously presented) The system of claim 1, wherein the voice detection subsystem receives voice activity signals via couplings with the microphones.

Claim 8 (Canceled).

9. (Previously presented) The system of claim 1, wherein the voice detection subsystem further comprises at least one manually activated voice activity detector (VAD) for generating the voice activity signals.

10. (Previously presented) The system of claim 1, further including a portable handset that includes the microphones, wherein the portable handset includes at least one of cellular telephones, satellite telephones, portable telephones, wireline

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telephones, Internet telephones, wireless transceivers, wireless communication radios, personal digital assistants (PDAs), and personal computers (PCs).

11. (Previously presented) The system of claim 10, wherein the portable handset includes at least one of the voice detection subsystem and the denoising subsystem.

12. (Previously presented) The system of claim 1, further including a portable headset that includes the microphones along with at least one speaker device.

13. (Previously presented) The system of claim 12, wherein the portable headset couples to at least one communication device selected from among cellular telephones, satellite telephones, portable telephones, wireline telephones, Internet telephones, wireless transceivers, wireless communication radios, personal digital assistants (PDAs), and personal computers (PCs).

14. (Previously presented) The system of claim 13, wherein the portable headset couples to the communication device using at least one of wireless couplings, wired couplings, and combination wireless and wired couplings.

15. (Previously presented) The system of claim 13, wherein the communication device includes at least one of the voice detection subsystem and the denoising subsystem.

16. (Previously presented) The system of claim 12, wherein the portable headset includes at least one of the voice detection subsystem and the denoising subsystem.

17. (Previously presented) The system of claim 12, wherein the portable headset is a portable communication device selected from among cellular telephones,

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