METHOD FOR PROCESSING SPEECH/AUDIO SIGNAL AND APPARATUS

[0001] This application claims priority to Chinese Patent Application No. 201410242233.2, filed with the Chinese Patent Office on June 3, 2014 and entitled "METHOD FOR PROCESSING SPEECH/AUDIO SIGNAL AND APPARATUS", which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] The present invention relates to the communications field, and in particular, to a method for processing a speech/audio signal and an apparatus.

BACKGROUND

[0003] At present, to achieve better auditory quality, when decoding coded information of a speech/audio signal, an electronic device reconstructs a noise component of a speech/audio signal obtained by means of decoding.

[0004] At present, an electronic device reconstructs a noise component of a speech/audio signal generally by adding a random noise signal to the speech/audio signal. Specifically, weighted addition is performed on the speech/audio signal and the random noise signal, to obtain a signal after the noise component of the speech/audio signal is reconstructed. The speech/audio signal may be a time-domain signal, a frequency-domain signal, or an excitation signal, or may be a low frequency signal, a high frequency signal, or the like.

[0005] However, it is found that, if the speech/audio signal is a signal having an onset or an offset, this method for reconstructing a noise component of a speech/audio signal results in that a signal obtained after the noise component of the speech/audio signal is reconstructed has an echo, thereby affecting auditory quality of the signal obtained after the noise component is reconstructed.

SUMMARY

[0006] Embodiments of the present invention provide a method for processing a speech/audio signal and an apparatus, so that for a speech/audio signal having an onset or an offset, when a noise

expressly listed, or further includes elements inherent to such process, method, article, or apparatus. An element preceded by "includes a..." does not, without more constraints, preclude the existence of additional identical elements in the process, method, article, or apparatus that includes the element.

[0141] The foregoing descriptions are merely exemplary embodiments of the present invention, but are not intended to limit the protection scope of the present invention. In this specification, specific examples are used to describe the principle and implementation manners of the present invention, and the description of the embodiments is only intended to make the method and core idea of the present invention more comprehensible. Moreover, a person of ordinary skill in the art may, based on the idea of the present invention, make modifications with respect to the specific implementation manners and the application scope. In conclusion, the content in this specification shall not be construed as a limitation to the present invention. Any modification, equivalent replacement, or improvement made without departing from the principle of the present invention shall fall within the protection scope of the present invention.

CLAIMS

1. A method for processing a speech/audio signal, wherein the method comprises:

receiving a bitstream, and decoding the bitstream, to obtain a speech/audio signal;

determining a first speech/audio signal according to the speech/audio signal, wherein the first speech/audio signal is a signal, whose noise component needs to be reconstructed, in the speech/audio signal;

determining a symbol of each sample value in the first speech/audio signal and an amplitude value of each sample value in the first speech/audio signal;

determining an adaptive normalization length;

determining an adjusted amplitude value of each sample value according to the adaptive normalization length and the amplitude value of each sample value; and

determining a second speech/audio signal according to the symbol of each sample value and the adjusted amplitude value of each sample value, wherein the second speech/audio signal is a signal obtained after the noise component of the first speech/audio signal is reconstructed.

2. The method according to claim 1, wherein the determining an adjusted amplitude value of each sample value according to the adaptive normalization length and the amplitude value of each sample value comprises:

calculating, according to the amplitude value of each sample value and the adaptive normalization length, an average amplitude value corresponding to each sample value, and determining, according to the average amplitude value corresponding to each sample value, an amplitude disturbance value corresponding to each sample value; and

calculating the adjusted amplitude value of each sample value according to the amplitude value of each sample value and according to the amplitude disturbance value corresponding to each sample value.

3. The method according to claim 2, wherein the calculating, according to the amplitude value of each sample value and the adaptive normalization length, an average amplitude value corresponding to each sample value comprises:

determining, for each sample value and according to the adaptive normalization length, a subband to which the sample value belongs; and

calculating an average value of amplitude values of all sample values in the subband to which the sample value belongs, and using the average value obtained by means of calculation as the average amplitude value corresponding to the sample value.

4. The method according to claim 3, wherein the determining, for each sample value and