



[54] ADAPTIVE WEINER FILTERING USING A DYNAMIC SUPPRESSION FACTOR

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[52] U.S. Cl. .... 395/2.35; 395/2.36; 395/2.37

[58] Field of Search ..... 395/2.35, 2.36, 395/2.37, 2.38, 2.42, 2.28; 381/34, 36

[56] References Cited PUBLICATIONS

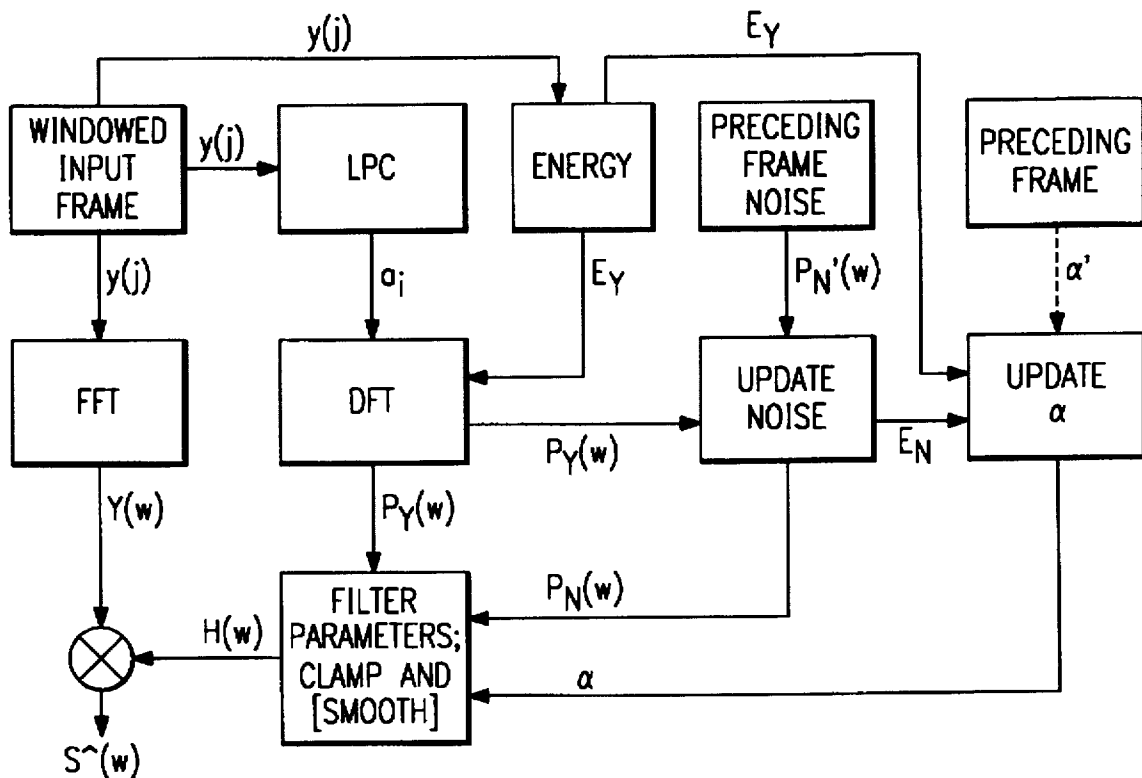
Deller et al., "Discrete-Time Processing of Speech Signals," Prentice-Hall, Inc., pp. 506-528, 1987. Arslan et al., "New Methods for Adaptive Noise Suppression," ICASSP '95: Acoustics, Speech & Signal Processing Conference, pp. 812-815, May 1995.

Primary Examiner—Allen R. MacDonald Assistant Examiner—Vijay Chawan Attorney, Agent, or Firm—Carlton H. Hoel; W. James Brady; Richard L. Donaldson

[57] ABSTRACT

An acoustic noise suppression filter including attenuation filtering with a noise suppression factor depending upon the ratio of estimated noise energy of a frame divided by estimated signal energy.

12 Claims, 7 Drawing Sheets



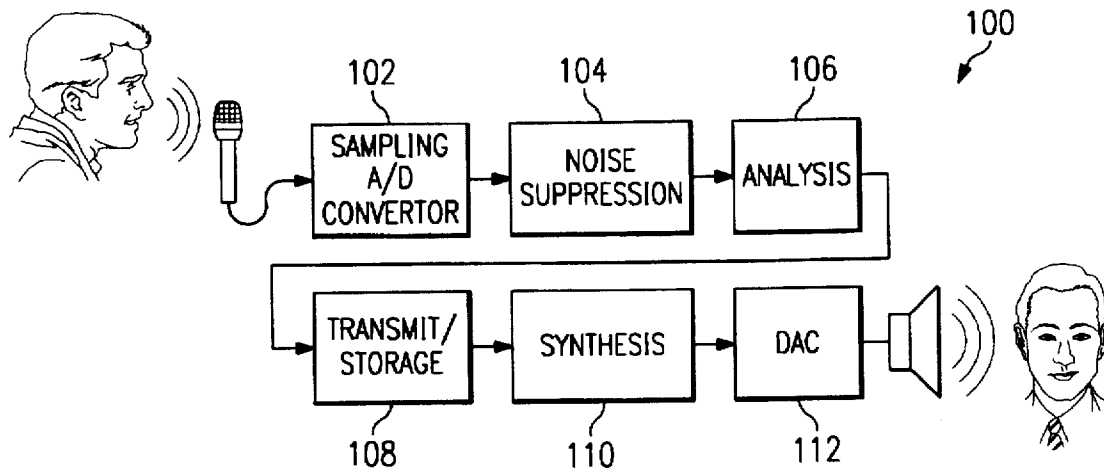


FIG. 1a

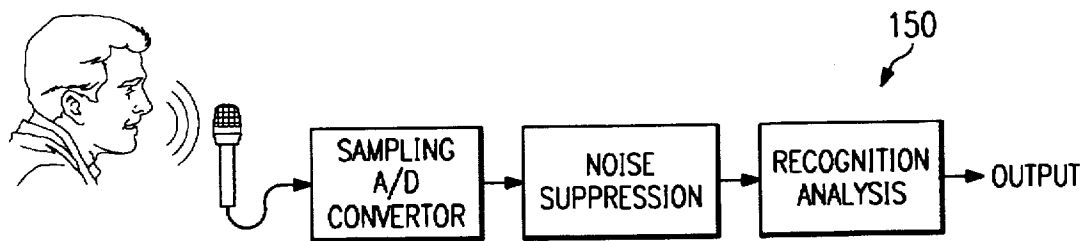


FIG. 1b

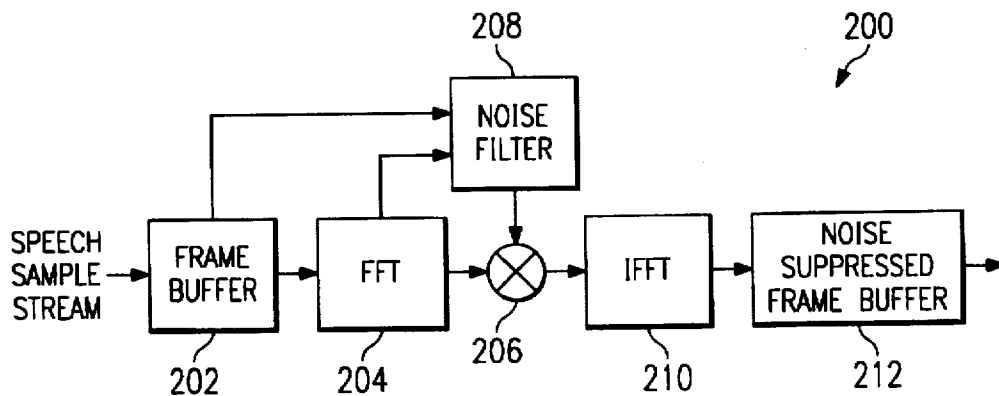


FIG. 2

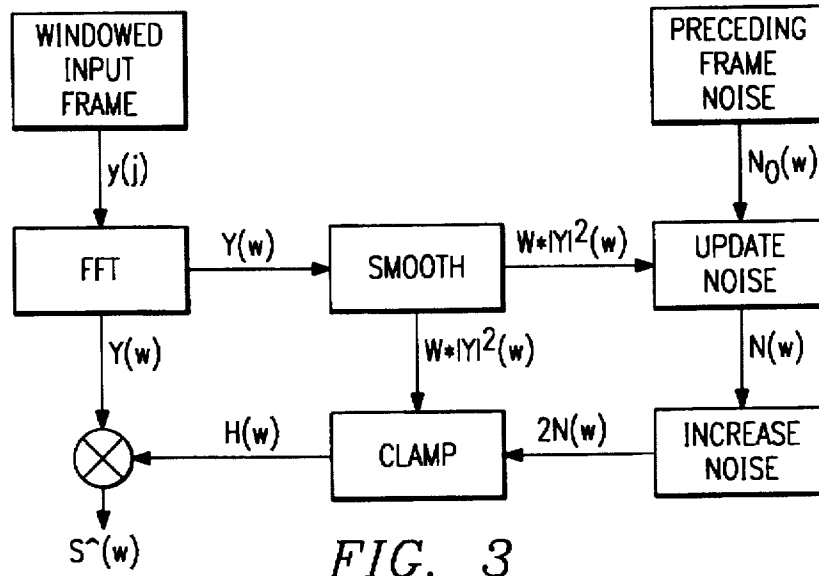


FIG. 3

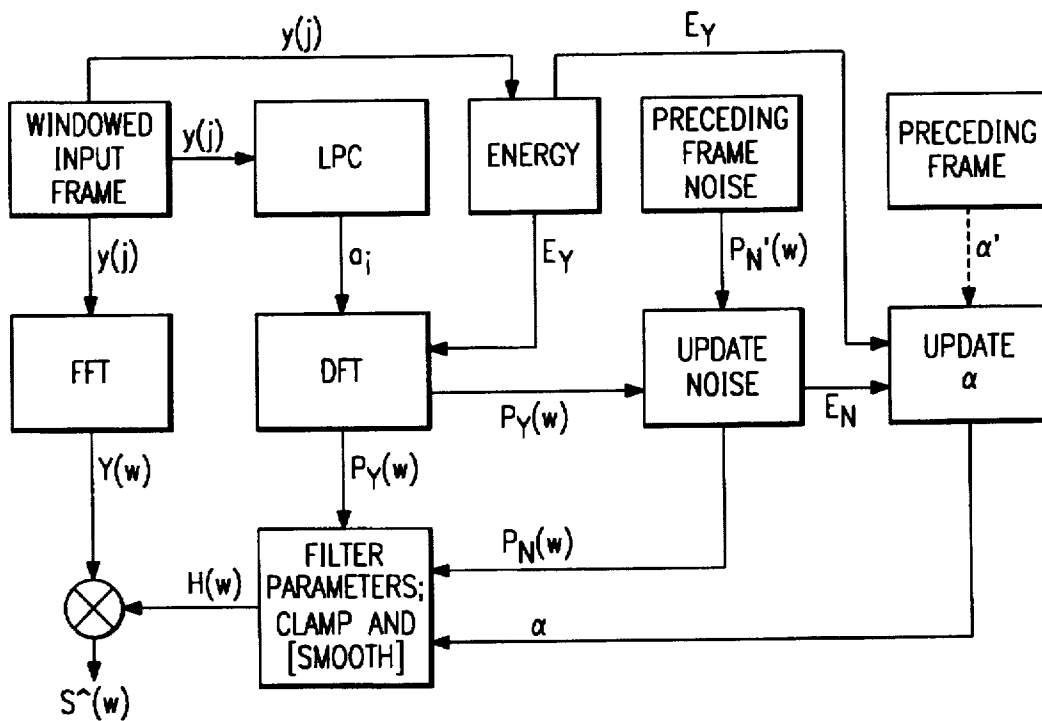


FIG. 4

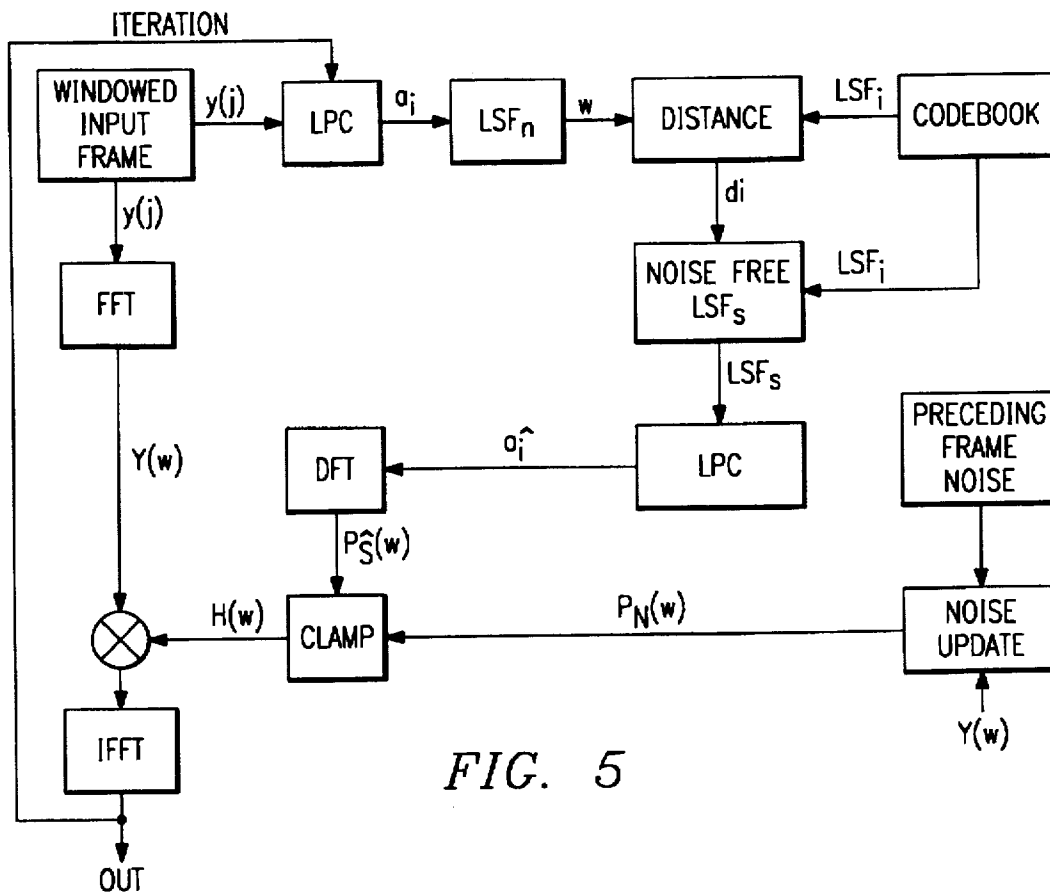
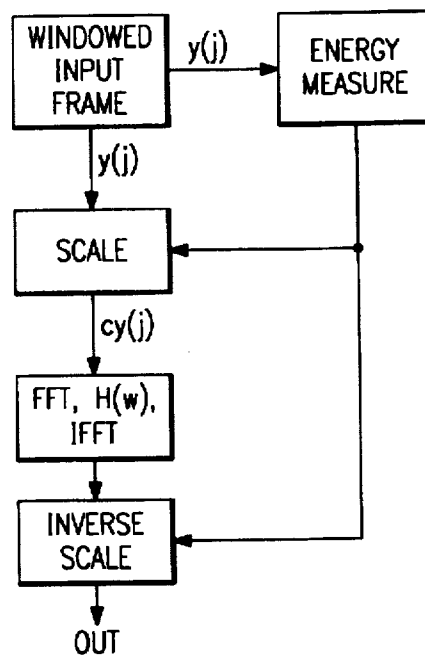


FIG. 5

FIG. 6



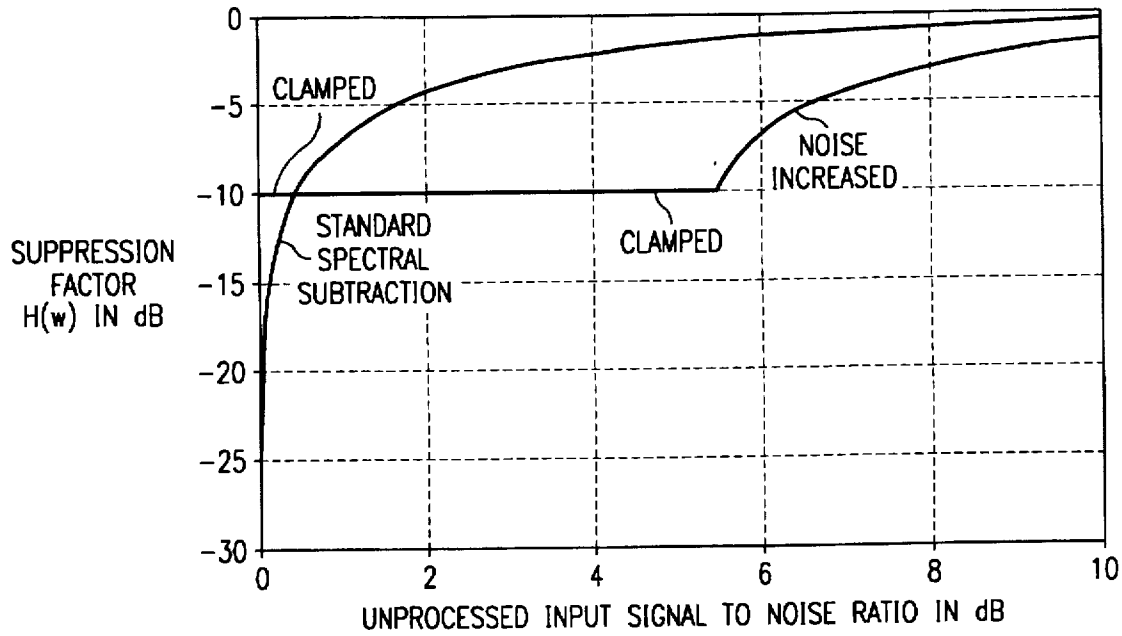


FIG. 7

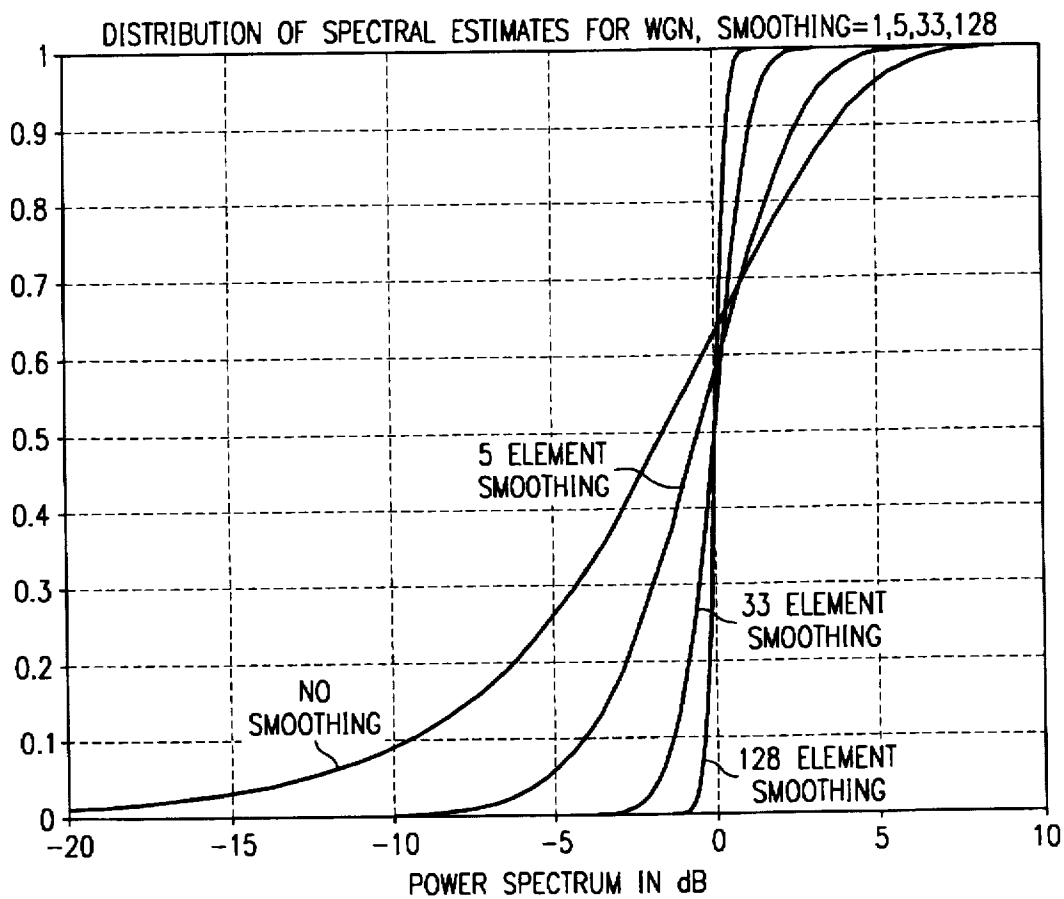


FIG. 8

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