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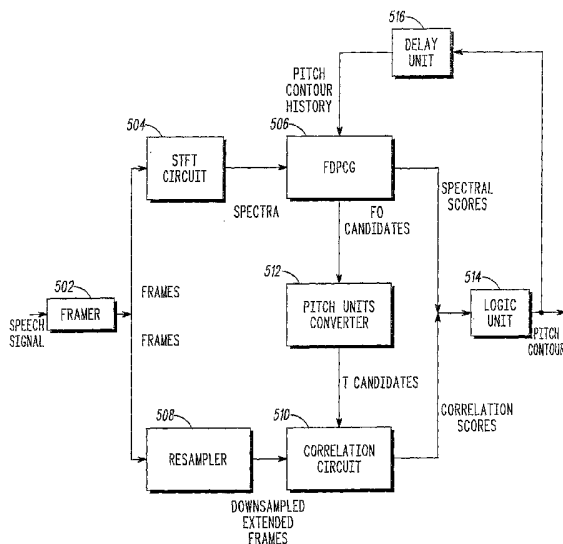
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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR COMBINED FREQUENCY-DOMAIN AND TIME-DOMAIN PITCH EXTRACTION FOR SPEECH SIGNALS



(57) Abstract: A system, computer readable medium, and method for sampling a speech signal; dividing the sampled speech signal into overlapped frames; extracting first pitch information from a frame using frequency domain analysis; providing at least one pitch candidate, each being associated with a spectral score, from the first pitch information, each of the at least one pitch candidate representing a possible pitch estimate for the frame; extracting second pitch information from the frame using a time domain analysis; providing a correlation score for the at least one pitch candidate from the second pitch information; and selecting one of the at least one pitch candidate to represent the pitch estimate of the frame. The system, computer readable medium, and method are suitable for speech coding and for distributed speech recognition.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/10119

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G10L 11/04
 US CL : 704/207

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 704/207, 208, 216-218, 214

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,791,671 A (WILLEMS) 13 December 1988, see entire document.	1-30
A	US 5,781,880 A (SU) 14 July 1998, see entire document.	1-30
A	US 4,731,846 A (SECRETST et al) 15 March 1988, see entire document.	1-30

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

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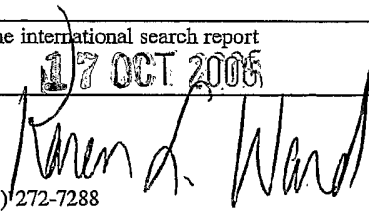
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Continuation of B. FIELDS SEARCHED Item 3:

EAST

IBEE; USPG-PUB; USPAT; EPO; JPO; DERWENT; IBM_TDB