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Publication number: **0 537 948 A3**

EUROPEAN PATENT APPLICATION

Application number: **92309167.2**

Int. Cl.⁵: **G10L 9/14**

Date of filing: **08.10.92**

Priority: **18.10.91 US 778560**

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Date of publication of application:
21.04.93 Bulletin 93/16

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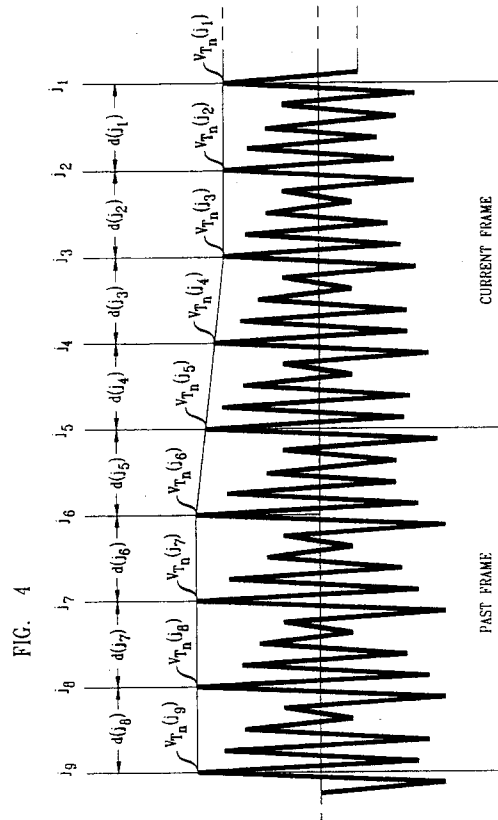
Designated Contracting States:
DE ES FR GB IT

Date of deferred publication of the search report:
23.06.93 Bulletin 93/25

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Method and apparatus for smoothing pitch-cycle waveforms.

A method and apparatus for processing a reconstructed speech signal from an analysis-by-synthesis decoder are provided to improve the quality of reconstructed speech. By operation of the invention, one or more traces in a reconstructed speech signal are identified. Traces are sequences of like-features in the reconstructed speech signal. The like-features are identified by time-distance data received from the long term predictor of the decoder. The identified traces are smoothed by one of the known smoothing techniques. A smoothed version of the reconstructed speech signal is formed by combining one or more of the smoothed traces. The original reconstructed speech signal may be that provided by a long term predictor of the decoder. Values of the reconstructed speech signal and smoothed speech signal may be combined based on a measure of periodicity in speech.



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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	ICASSP 91 vol. 1, 14 May 1991, TORONTO pages 233 - 236 M.COPPERI 'Efficient excitation modeling in a low bit-rate celp coder' * page 234, left column, paragraph 4 - right column, paragraph 1 * ---	1,4,6,9,12	G10L9/14
A	ICASSP 90 vol. 2, 3 April 1990, ALBUQUERQUE pages 661 - 664 P.KROON ET AL. 'Pitch predictors with high temporal resolution' * page 663, left column, paragraph 2 * ---	1,9	
A	SPEECH COMMUNICATION vol. 7, 1988, pages 125 - 149 U.HEUTE 'Medium-rate speech coding - trial of a review' * page 139, left column, paragraph 3 - right column, paragraph 3 * -----	1,6,9	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G10L
Place of search	Date of completion of the search	Examiner	
THE HAGUE	28 APRIL 1993	DAMAN M.A.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			