



Europäisches Patentamt

(19)

European Patent Office

Office européen des brevets



(11) Publication number:

0 545 386 A3

(12)

## EUROPEAN PATENT APPLICATION

(21) Application number: 92120573.8

(51) Int. Cl. 5: G10L 9/14

(22) Date of filing: 02.12.92

(30) Priority: 03.12.91 JP 319314/91

(43) Date of publication of application:  
09.06.93 Bulletin 93/23

(84) Designated Contracting States:  
DE FR GB

(88) Date of deferred publication of the search report:  
18.08.93 Bulletin 93/33

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### (54) Method for speech coding and voice-coder.

(57) A method for speech coding and a voice-coder for coding speech signals divided into frames spaced with a constant interval are disclosed. An adaptive codebook storing excitation signal determined in advance and a plurality of excitation codebooks for multi-stage vector quantization are provided. Each frame is divided into subframes. For each subframe, a candidate of a first predetermined number of adaptive codevectors is selected, and

then candidates of each predetermined number of excitation codevectors are selected from each excitation codebook, respectively, by using the candidate of the adaptive codevector. Finally, a combination of the adaptive codevector and each of the excitation codevector is selected from the candidates of the adaptive codevector and each of the sound codevectors.

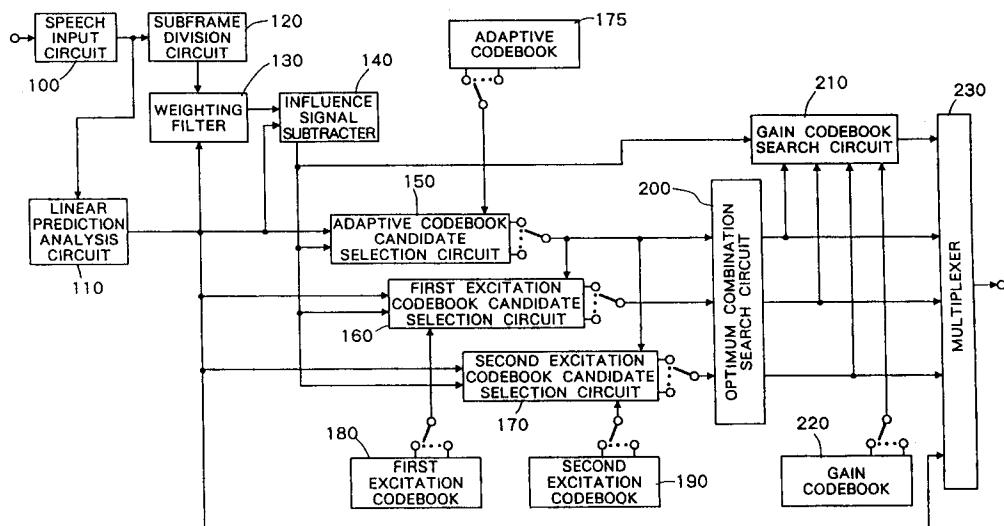


FIG. 1



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EP 92 12 0573  
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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)
X	EP-A-0 443 548 (NEC)	1,2,7, 10,11	G10L9/14
A	* page 7, line 15 - page 10, line 16; figure 1 *	3	
	* page 13, line 16 - page 14, line 23; claims 1-4,6; figure 5 *		
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P,X	EP-A-0 477 960 (NEC)	1,2,7, 10,11	
	* page 2, line 54 - page 4, line 52; figure 1 *		
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The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	22 JUNE 1993	FARASSOPOULOS 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			



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A	<p>INTERNATIONAL CONFERENCE ON ACOUSTICS SPEECH AND SIGNAL PROCESSING vol. 1, 3 April 1990, ALBUQUERQUE NEW MEXICO USA pages 461 - 464 GERSON, JASIUK 'Vector sum excited linear prediction speech coding at 8Kbps' * pages 461-463, sections I-V *</p> <p>-----</p>	1-3, 7, 8, 10-12	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
<p>The present search report has been drawn up for all claims</p>			
Place of search THE HAGUE	Date of completion of the search 22 JUNE 1993	Examiner FARASSOPOULOS A.	
CATEGORY OF CITED DOCUMENTS		<p>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 ..... &amp; : member of the same patent family, corresponding document</p>	
<p>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</p>			