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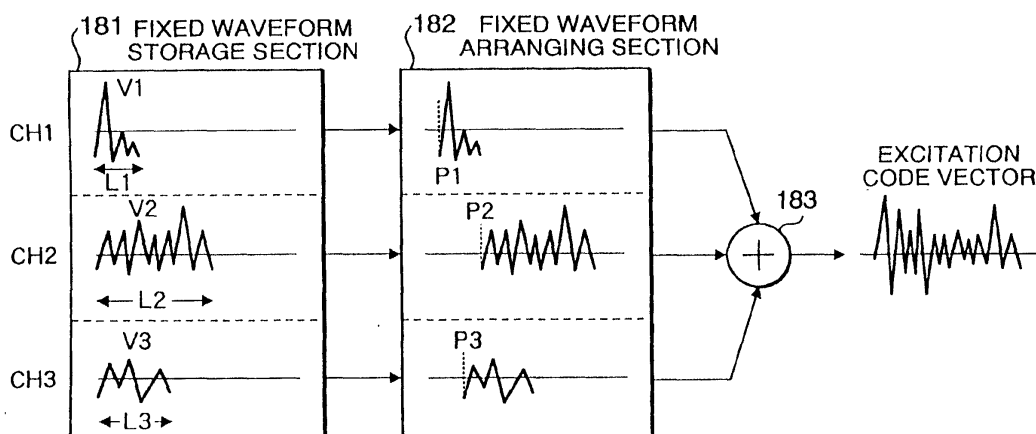
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(54) **Vector quantization codebook generation method**

(57) In a CELP type speech coder, the excitation is quantized by vectors from a random codebook. The random codebook is made of a fixed waveform storage section (181), followed by a vector rearranging unit (182).

The rearranging section (182) shifts the vectors to positions determined to minimize the quantization distortion using a pulse placement methodology of an algebraic coder. The vectors are summed (183) to generate the excitation code vector.

**FIG. 18**



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## EUROPEAN SEARCH REPORT

Application Number  
EP 00 12 1467

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.7)
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A	MILLAR D ET AL: "A MULTIPULSE SPEECH CODEC FOR DIGITAL CELLULAR MOBILE USE" PROCEEDINGS OF THE WORKSHOP ON SPEECH CODING FOR TELECOMMUNICATIONS,US,BOSTON, KLUWER, vol. -, 1989, pages 87-96, XP000419265 * page 90 * ---	1,10	
A	EP 0 680 032 A (NIPPON ELECTRIC CO) 2 November 1995 (1995-11-02) * page 5, line 48 - line 57 * ---	1,10	
A	US 5 293 449 A (TZENG FORREST F) 8 March 1994 (1994-03-08) * page 4 * -----	1,10	
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>29 November 2000</b>	Examiner <b>Krembel, L</b>
CATEGORY OF CITED DOCUMENTS 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		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	

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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