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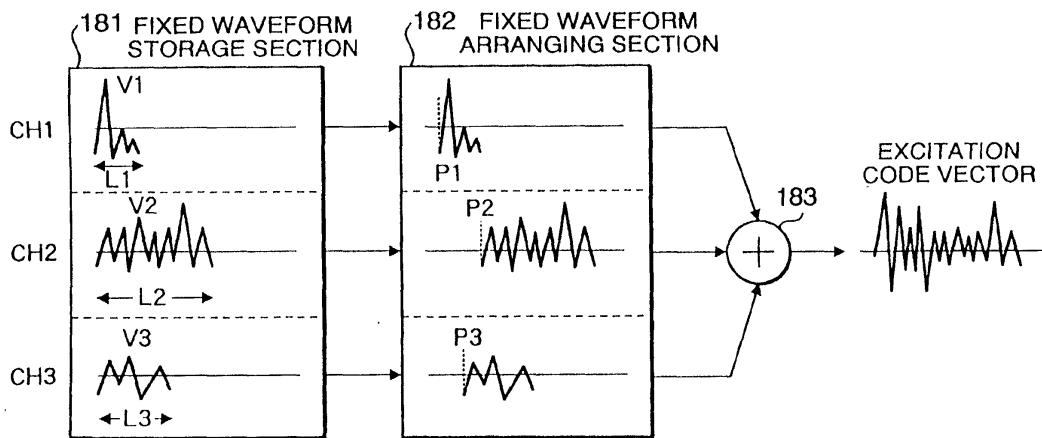
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(54) Vector quantization codebook generation method

(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





DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)	
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim		
A	KIM S J ET AL: "A COMPLEXITY REDUCTION METHOD FOR VSELP CODING USING OVERLAPPED SPARSE BASIS VECTORS" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON SIGNAL PROCESSING APPLICATIONS AND TECHNOLOGY, 18 October 1994 (1994-10-18), XP000866009 * figure 1 * * paragraph '0III! * ----	1,10	G10L19/12	
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	G10L	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">TECHNICAL FIELDS SEARCHED (Int.Cl.7)</td> </tr> </table>				TECHNICAL FIELDS SEARCHED (Int.Cl.7)
TECHNICAL FIELDS SEARCHED (Int.Cl.7)				
The present search report has been drawn up for all claims				
Place of search THE HAGUE	Date of completion of the search 29 November 2000	Examiner Krembel, L		
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		
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 00 12 1467

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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