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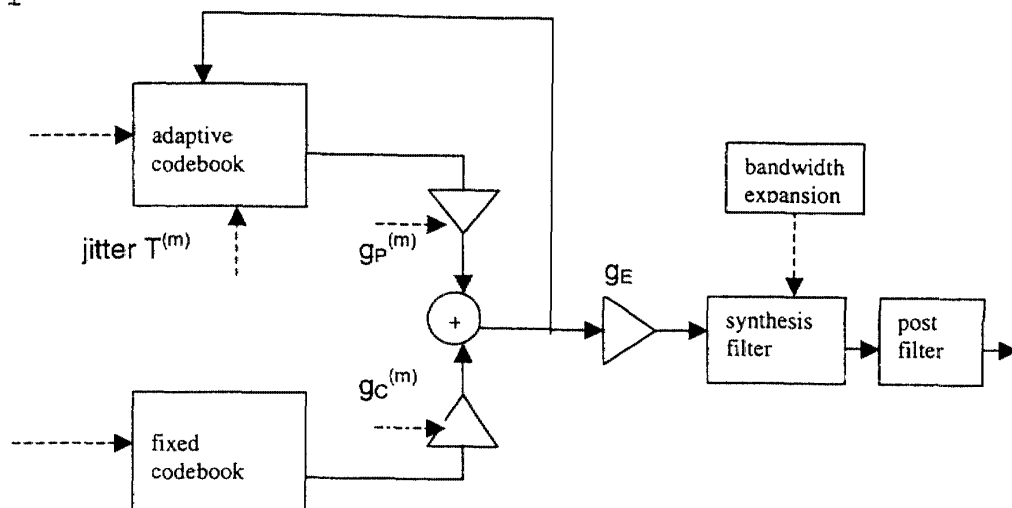
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(54) **Method for concealing erased speech frames**

(57) A decoder for code excited LP encoded frames with both adaptive and fixed codebooks; erased frame

concealment uses muted repetitive excitation, threshold-adapted bandwidth expanded repetitive synthesis filter, and jittered repetitive pitch lag.

Figure 1



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EUROPEAN SEARCH REPORT

Application Number
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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.7)
P,X	DE MARTIN J C ET AL: "Improved frame erasure concealment for CELP-based coders" 2000 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING. PROCEEDINGS (CAT. NO.00CH37100), 5 - 9 June 2000, pages 1483-1486 vol.3, XP002204285, ISTANBUL, TURKEY, Piscataway, NJ, USA, IEEE, USA ISBN: 0-7803-6293-4 * the whole document *	1-12	G10L19/00 G10L19/12
X	US 5 717 822 A (CHEN JUIN-HWEY) 10 February 1998 (1998-02-10) * abstract *	1-4,8,9	
Y	---	5-7	
Y	AOKI N ET AL: "Two 1/f fluctuations in sustained phonation and their roles on naturalness of synthetic voice" PROCEEDINGS OF THE THIRD IEEE INTERNATIONAL CONFERENCE ON ELECTRONICS, CIRCUITS, AND SYSTEMS. ICECS '96 (CAT. NO.96TH8229), 13 - 16 October 1996, pages 311-314 vol.1, XP002204286 RODOS, GREECE, New York, NY, USA, IEEE, USA ISBN: 0-7803-3650-X * abstract *	5-7	
	---		TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			G10L
X	EP 0 773 630 A (NIPPON TELEGRAPH & TELEPHONE) 14 May 1997 (1997-05-14) * abstract *	1,2,8-12	

The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 2 July 2002	Examiner Quélavoine, R
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
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 31 0360

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The members are as contained in the European Patent Office EDP file on
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02-07-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5717822	A	10-02-1998	AU	683125 B2	30-10-1997
			AU	1367495 A	21-09-1995
			CA	2142391 A1	15-09-1995
			DE	69523498 D1	06-12-2001
			EP	0673015 A2	20-09-1995
			JP	7325594 A	12-12-1995

EP 0773630	A	14-05-1997	EP	0773630 A1	14-05-1997
			JP	3155952 B2	16-04-2001
			US	6085158 A	04-07-2000
			CN	1159260 A	10-09-1997
			WO	9637964 A1	28-11-1996
