



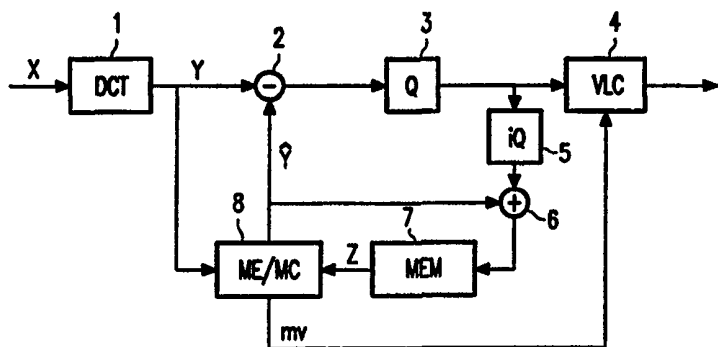
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : <b>H04N 7/50, 7/26</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 99/41912</b></p> <p>(43) International Publication Date: 19 August 1999 (19.08.99)</p>
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(54) Title: METHOD AND ARRANGEMENT FOR VIDEO CODING

(57) Abstract

A hybrid video encoder which carries out motion estimation and compensation (8) in the transform domain. In such an encoder, the calculation of a prediction block ( $\hat{Y}$ ) from previously encoded blocks ( $Z$ ) stored in the transform-domain frame memory (7) requires a large number of multiplications. This applies particularly to the motion estimation algorithm. In accordance with the invention, only a few DCT coefficients of candidate prediction blocks are calculated, for example, the DC coefficient and some AC coefficients. In a preferred embodiment, the AC coefficients are adaptively selected in dependence upon the motion vector which is being considered. The calculated coefficients of the candidate prediction blocks and the corresponding coefficients of the current input picture block ( $Y$ ) are then compared to identify the best-matching prediction block.



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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 99/00151

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>			
<b>IPC6: H04N 7/50, H04N 7/26</b> According to International Patent Classification (IPC) or to both national classification and IPC			
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
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<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>			
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
X	Mingzhou Song, Anni Cai, Member, IEEE and Jing-ao Sun, Member, IEEE, Motion Estimation in DCT Domain, International Conference on Communication Technology, Beijing, China, May 5-7, 1996, ISBN 0-7803-2916-3, page 671, column 1, line 7 - line 14; page 673, column 2, line 28 - line 34; figure 3, abstract	1,2,6,8	
Y	--	7	
A	--	3,4,5,	
Y	Gerard de Haan, Paul W.A.C. Biezen, Sub-pixel motion estimation with 3-D recursive search Block-matching, Signal Processing Image Communication 6 (1994) 229-239	7	
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4245248 A (ARUN N. NETRAVALI ET AL), 13 January 1981 (13.01.81), see the whole document  --	1-8
A	US 5408274 A (SHIH-FU CHANG ET AL), 18 April 1995 (18.04.95), see the whole document  --	1-8
A	US 4704628 A (WEN-HSIUNG CHEN ET AL), 3 November 1987 (03.11.87), see the whole document  --	1-8
E	WO 9926418 A1 (A & T TECHNOLOGIES GROUP), 27 May 1999 (27.05.99), see the whole document  -- -----	1-8

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4245248 A	13/01/81	NONE	
US 5408274 A	18/04/95	AU 6395594 A WO 9421079 A	26/09/94 15/09/94
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