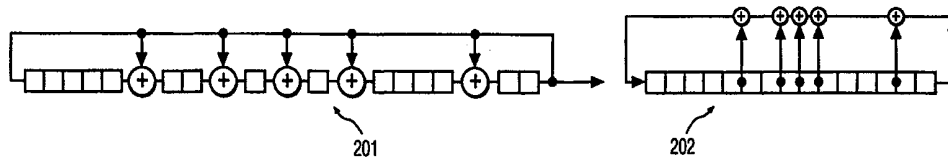




## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(54) Title: MASK GENERATING POLYNOMIALS FOR PSEUDO-RANDOM NOISE GENERATORS



## (57) Abstract

A CDMA baseband modem having a PN generator with significant reduction in stored masks is disclosed. Various performance matrices set forth alternative combinations of sequence generation through three parameters: storage, software, and time. Embodiments of this implementation are presented with corresponding hardware complexities. Masks are used to move to a new phase offset sequence. Instead of storing  $2^N$  masks, less than  $N$  masks are required to be stored in ROM because of mask calculation intelligence carried out in the software/software control. Masks are calculated with a mask generating polynomial based upon any degree of characteristic polynomial of a PN generator. Masks for the mask generator are only stored which result in phase shifts of powers of two. The characteristic polynomial of the pseudo-random noise generator and the mask generator are Galois and Fibonacci polynomials.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB 99/00366

A. CLASSIFICATION OF SUBJECT MATTER		
<b>IPC6: H04K 1/02</b> According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
<b>SE,DK,FI,NO classes as above</b>		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5267271 A (BART E. RICE), 30 November 1993 (30.11.93), abstract  --	1-14
A	US 5228054 A (TIMOTHY I. RUETH ET AL), 13 July 1993 (13.07.93), cited in the application  --	1-14
A	US 4860353 A (DAVID S. BROWN), 22 August 1989 (22.08.89), abstract  --	1-14
A	GB 1597218 A (NATIONAL RESEARCH DEVELOPMENT CORPORATION), 3 Sept 1981 (03.09.81), see the whole document  -- -----	1-14
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30 Sept 1999		04 -10- 1999
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Information on patent family members

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