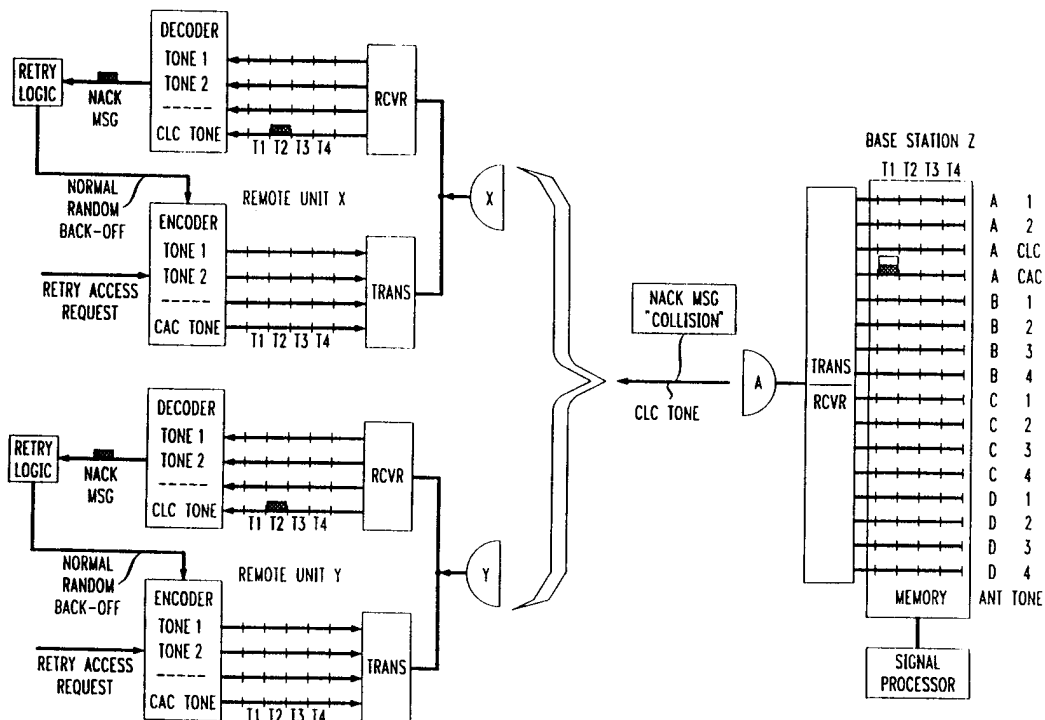




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(54) Title: METHOD TO GAIN ACCESS TO A BASE STATION IN A DISCRETE MULTITONE SPREAD SPECTRUM COMMUNICATIONS SYSTEM



(57) Abstract

In a discrete multitone spread spectrum system, a base station distinguishes between normal collisions and noise bursts when receiving access request signals from remote units on a common access channel. The base station is then able to reply to the remote units with information about the quality of the common access channel and why their transmissions were not successful. The remote units then use this information to adapt their retry processes to the channel's quality, depending on whether there was a noise burst, a normal collision, or a successful transmission on the channel.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/02101

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 6 H04Q7/38 H04L12/56

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)
 IPC 6 H04Q H04L H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, 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	WO 95 34149 A (AMATI COMMUNICATIONS INC ;CIOFFI JOHN M (US); BINGHAM JOHN (US); J) 14 December 1995 see page 2, line 11 - page 4, line 35 see page 17, line 15 - page 18, line 4 see page 28, line 13 - page 29, column 3 ---	1,9
A	US 4 841 527 A (RAYCHAUDHURI DIPANKAR ET AL) 20 June 1989 see column 1, line 34 - column 2, line 37 ---	1,9
A	US 5 521 937 A (KONDO SHIRO ET AL) 28 May 1996 see abstract -----	1,9

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Patent family members are listed in annex.

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Date of the actual completion of the international search

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information on patent family members

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PCT/US 98/02101

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9534149 A	14-12-1995	US 5625651 A	29-04-1997
		US 5644573 A	01-07-1997
		US 5557612 A	17-09-1996
		AU 695092 B	06-08-1998
		AU 2696295 A	04-01-1996
		CA 2191437 A	14-12-1995
		EP 0763295 A	19-03-1997
		FI 964805 A	14-01-1997
		JP 10503893 T	07-04-1998
US 4841527 A	20-06-1989	NONE	
US 5521937 A	28-05-1996	JP 7202758 A	04-08-1995