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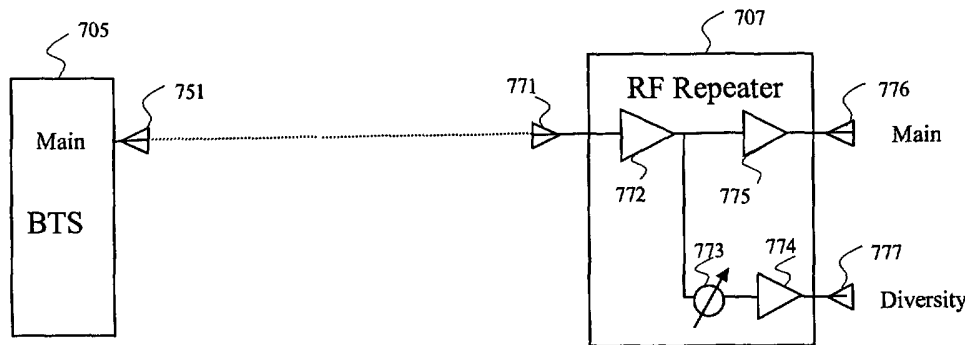
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(54) Title: PHASE SWEEPING METHODS FOR TRANSMIT DIVERSITY AND DIVERSITY COMBINING IN BTS SECTOR EXTENSION AND IN WIRELESS REPEATERS



(57) Abstract: Apparatus for inserting transmit diversity into an RF signal for transmission comprises: an RF splitter for splitting the RF signal to be transmitted into two signal parts (776, 777), and a non-linear phase modulator (773) which applies a non-linear phase modulation to one of the two signal parts, thereby to provide transmit diversity between the first signal part and the second signal part. One of the ways of inserting a non-linear phase modulation into the RF signal is to use a spinning disc with tracks of different dielectric strength. The apparatus is useful in cellular telephony for supplying repeaters and base station extension with diversity capability.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL04/00274

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04B 01/00
 US CL : 455/23

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)
 U.S. : 455/23,7,14,15,17-22,60,61,101,132,139

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 practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2002/0016152 A (WEISSMAN et al) 07 February, 2002 (07.02.2002) see fig 1, paragraphs, 48,4912-14	1-13,16,19-29,35,36 ----- 14,15
X -- Y	US 6,504,450 B (KIM et al) 07 January, 2003, see column 2, lines 10-37,column 4, lines 8-57	32-34 ----- 14,15
A	US 6,125,109 A (FUERTER) 26 September, 2000 (26.09.2000) see figures 3,9,column 2, lines 25-40.	1-36
A	US 5,652,765 A (ADACHI et al) 29 July, 1997 (29.07.1997) see figure 3A, column 6, lines 5-65.	1-36

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means		
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer <i>Philip Sobotka</i> Telephone No. 703-305-4825

Continuation of B. FIELDS SEARCHED Item 3:

APS

search terms: diversity, delay, non-linear, modulation, dielectric, spiral plate, disc