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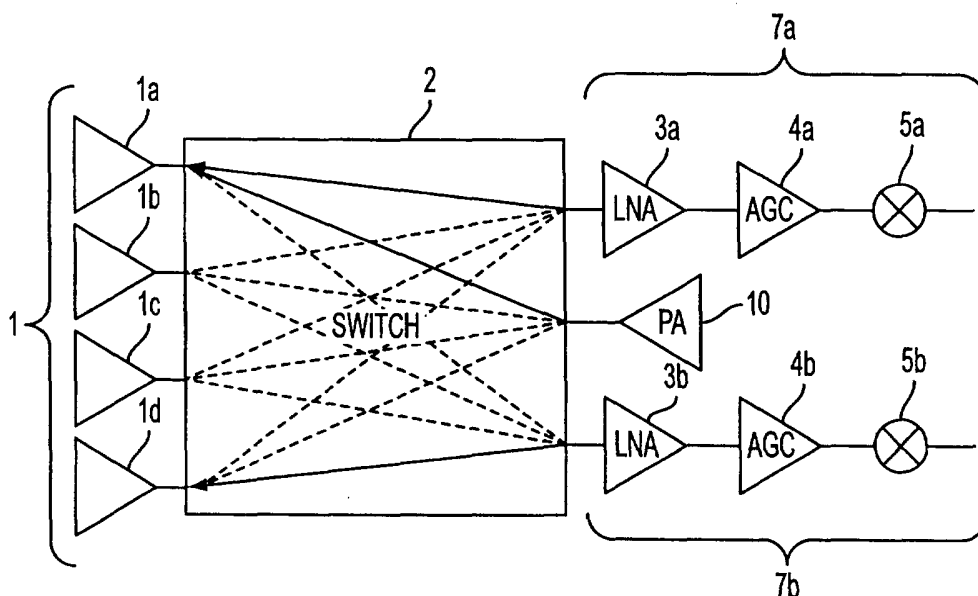
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(54) Title: ANTENNA SELECTION FOR DIVERSITY COMBINING



(57) Abstract: A diversity combining receiver may employ a switching architecture that permits multiple receiver chains to be coupled to multiple antennas.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/039446

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04B7/08

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 7 H04B H04L

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)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2003/083016 A1 (EVANS DAVID H ET AL) 1 May 2003 (2003-05-01) abstract; figure 1 paragraph '0006! - paragraph '0008! paragraph '0016! - paragraph '0024!	1,11,19, 25 8,9,16
X	PATENT ABSTRACTS OF JAPAN vol. 010, no. 240 (E-429), 19 August 1986 (1986-08-19) & JP 61 072421 A (MATSUSHITA ELECTRIC IND CO LTD), 14 April 1986 (1986-04-14) abstract ----- -/--	1,11,19, 25



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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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"&" document member of the same patent family

Date of the actual completion of the international search

18 July 2005

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/039446

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 006, no. 042 (E-098), 16 March 1982 (1982-03-16) & JP 56 158541 A (NISSAN MOTOR CO LTD), 7 December 1981 (1981-12-07) abstract	1, 11, 19, 25
X	US 2003/104796 A1 (Y00N HEUNG-SIK) 5 June 2003 (2003-06-05) abstract; figures 3,4; table 2 paragraph '0012!	18, 31-34

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/039446

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
1-9, 11-16, 18-22, 25-28, 31-34
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7,11-15,19-22,25-28

An apparatus comprising a switch adapted to couple each of at least two receiver chains to one of at least two of a plurality of antennas.

2. claims: 8,9,16

A second switch adapted to be coupled to a power amplifier and to a receiver chain and to one of said sub-switches such that said one of said sub-switches is coupled to said receiver chain and said power amplifier through said second switch.

3. claims: 10,17, 23, 24, 29, 30

Switch further comprising a sub-switch adapted to be coupled to a power amplifier and to all of said plurality of antennas, said sub-switch adapted to couple said power amplifier to a selected one of said plurality of antennas.

4. claims: 18,31-34

Adjusting a data rate of a signal transmitted by a first transceiver employing diversity combining to compensate for a lack of use of diversity combining at a second transceiver.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/039446

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2003083016	A1	01-05-2003	CN 1572066 A EP 1440526 A1 WO 03034614 A1 JP 2005506754 T	26-01-2005 28-07-2004 24-04-2003 03-03-2005
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