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(54) Title: RECEIVING STAGE AND METHOD FOR RECEIVING

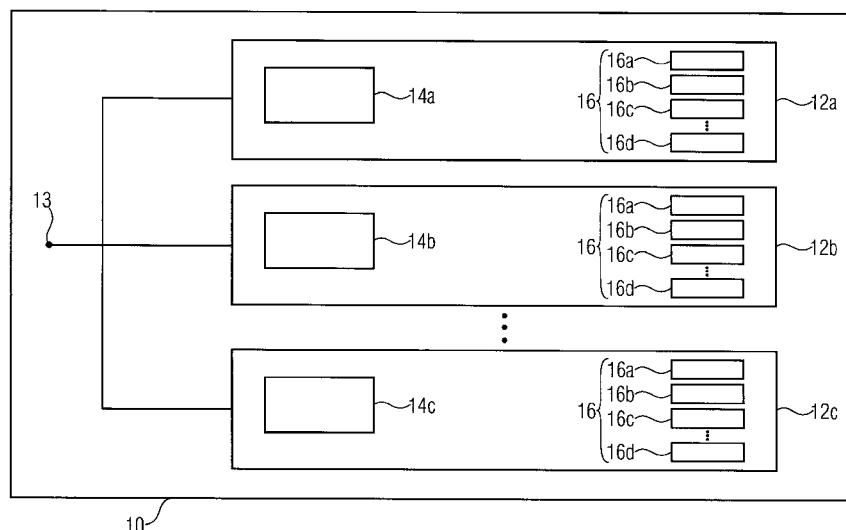


FIGURE 1

- (57) Abstract: A receiver stage for receiving a receive signal comprises M receiving paths, each receiving path comprises a signal processor and K comparators. The signal processors of the M receiving paths are configured to generate, for each of the M receiving paths, an amplified version of the receive signal, such that an amplification gain of the respective receiving path increases from a first of the M receiving paths to a last of the M receiving paths. For each of the M receiving paths the K comparators of the respective receiving paths are configured to compare the amplified receive signal of the respective receiving path with a respective threshold value. For each of the M receiving paths the threshold value increases from a first of the K comparators to the last of the K comparators.



INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/054523

A. CLASSIFICATION OF SUBJECT MATTER
INV. H03G3/30
ADD.

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)
H03G

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)

EPO-Internal, 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	GB 2 148 638 A (KRAUTKRAEMER GMBH) 30 May 1985 (1985-05-30) page 1, line 3 - page 3, line 73; figures 1-6	1-4,6,7, 9,17-19
X	----- US 6 191 725 B1 (LAVOIE PIERRE [CA]) 20 February 2001 (2001-02-20) column 2, lines 55-62; figures 2-4 column 4, lines 35-55 column 5, line 53 - column 6, line 6	1-4,9,19
X	----- US 3 569 953 A (SHUDA DONALD G ET AL) 9 March 1971 (1971-03-09) column 2, line 9 - column 4, line 75; figure 1 ----- -/--	1-4,6,7, 9,17-19



Further documents are listed in the continuation of Box C.



See patent family 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 application or patent but published on or after the international filing date

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"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

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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/054523

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 1 804 414 A1 (THOMSON LICENSING [FR]) 4 July 2007 (2007-07-04) the whole document -----	1-9, 16-19
A	EP 0 448 071 A2 (PLATH NAUT ELEKTRON TECH [DE]) 25 September 1991 (1991-09-25) the whole document -----	1-4,6,7, 9,17-19
A	EP 1 598 945 A2 (AGERE SYSTEM INC [US]) 23 November 2005 (2005-11-23) the whole document -----	1-19
A	US 2010/141389 A1 (HAGL ANDREAS [DE] ET AL) 10 June 2010 (2010-06-10) the whole document -----	1-19
A	US 6 847 628 B1 (SAKUMA SHIGERU [JP]) 25 January 2005 (2005-01-25) column 3, line 10 - column 4, line 44; figure 1, -----	1-9, 16-19
A	US 7 463 704 B1 (TEHRANI ARDAVAN MALEKI [US] ET AL) 9 December 2008 (2008-12-09) column 2, line 10 - column 3, line 46; figures 3,4A,4B,5 column 9, line 54 - column 11, line 65 -----	1-19
A	US 6 560 299 B1 (STROLLE CHRISTOPHER H [US] ET AL) 6 May 2003 (2003-05-06) paragraphs [0104], [0105]; figures 4,6,9A -----	1-19

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2013/054523

Box No. 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 No. 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 fees, this Authority did not invite payment of additional fees.
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.:
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 and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☒ 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: 1-4, 6, 7, 9, 17-19

A plurality of receiving paths including comparators. The receiving paths are arranged in parallel and coupled to a common node and have got different gains.

2. claims: 5, 8, 16

A plurality of receiving paths including comparators. Each receiving path comprises a demodulator arranged between an amplifier and the comparators.

3. claims: 10-15

A plurality of receiving paths including comparators. Each of the comparators is coupled to a correlator.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2013/054523

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