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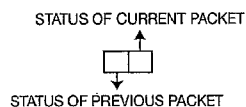
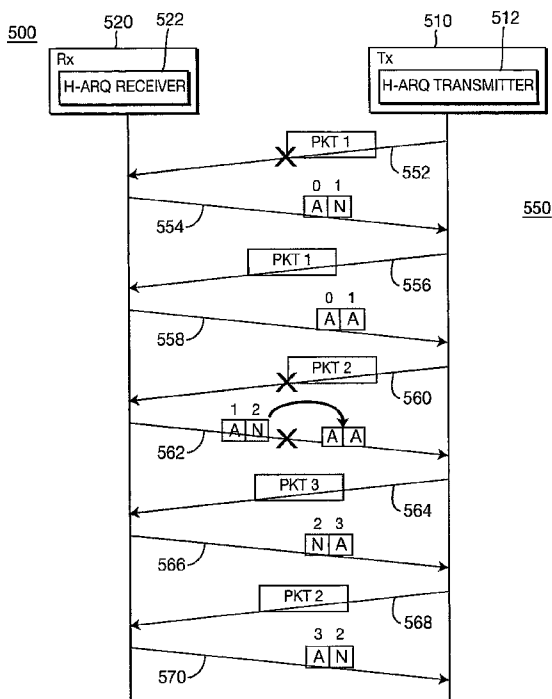
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(54) Title: METHOD AND SYSTEM FOR IMPLEMENTING HYBRID AUTOMATIC REPEAT REQUEST



(57) Abstract: A receiver sends hybrid automatic repeat request (H-ARQ) feedback for a current packet and at least one previous packet, whereby an error is detected based on the H-ARQ feedback. The receiver sends H-ARQ feedback with an identification of the packet or a sequence number of a packet that the receiver expects to receive next. The receiver stores a packet in a memory before combining the packet with a previously received packet, and decodes the stored packet after failing to decode a combined packet to avoid a corruption error. The receiver may set a timer when sending a NACK. If the receiver fails to receive a packet until expiration of the timer, the receiver initiates a process for recovering the packet. Each H-ARQ feedback may be associated with other attributes. Some H-ARQ processes may operate in an asynchronous mode while others in a synchronous mode in the same direction.

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GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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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)
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, WPI Data, COMPENDEX, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 101 58 755 A1 (SIEMENS AG [DE]) 12 June 2003 (2003-06-12) paragraphs [0004], [0005], [0023], [0024], [0026], [0029] - [0034]; figures 4,5	1-18, 43-60
X	WO 00/08796 A (ERICSSON TELEFON AB L M [SE]) 17 February 2000 (2000-02-17) abstract page 5, lines 5-11 page 10, line 8 - page 11, line 7; figure 4	1-26, 43-60
X	US 2002/172208 A1 (MALKAMAKI ESA [FI]) 21 November 2002 (2002-11-21) abstract paragraphs [0003], [0008], [0011], [0013] - [0018], [0038], [0042]	1-18, 43-60
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 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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

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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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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

International application No.
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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 allsearchable 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: 1-26, 43-68

Signalling status of received packets to the transmitter in order to maintain synchronization in an HARQ transmission system

2. claims: 27, 28, 69, 70

Decoding of packets in an HARQ receiver

3. claims: 29-31, 71-73

ARQ receiver assisted by an HARQ receiver

4. claims: 32-38, 74-80

Formatting of HARQ feedback messages for increased robustness and reliability of the ACK and/or NAK feedback messages

5. claims: 39-42, 81-84

Indicating the mode of operation of an HARQ process

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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