



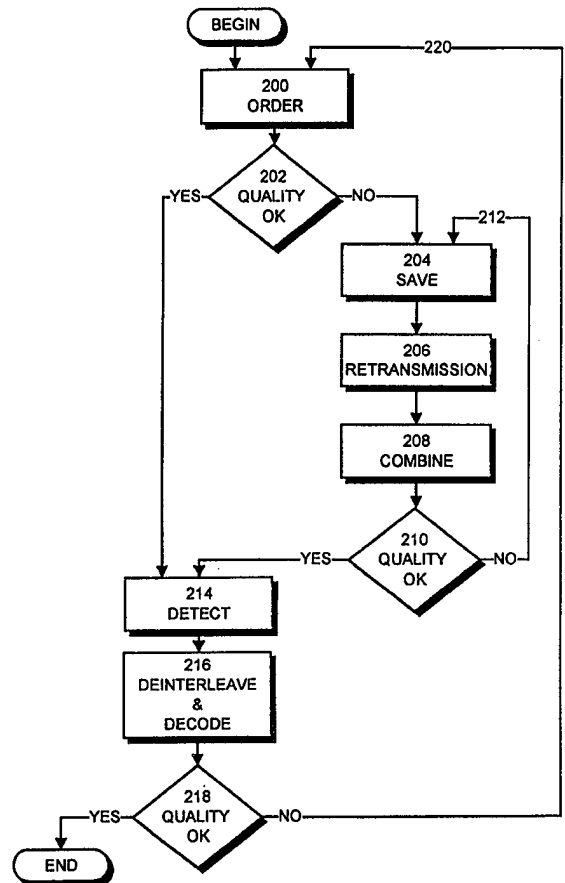
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/FI98/00365 (22) International Filing Date: 27 April 1998 (27.04.98) (30) Priority Data: 971810 28 April 1997 (28.04.97) FI (71) Applicant (for all designated States except US): NOKIA MOBILE PHONES LTD [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI). (72) Inventors; and (75) Inventors/Applicants (for US only): RAITOLA, Mika [FI/FI]; Nissnikuntie 7 B 5, FIN-02430 Masala (FI). HÄKKINEN, Hannu [FI/FI]; Taavinharju 18 A 2, FIN-02180 Espoo (FI). SALONAHO, Oscar [FI/FI]; Oksasenkatu 4, FIN-00100 Helsinki (FI). RINNE, Mikko, J. [FI/FI]; Tallbergin puistotie 1 C 25, FIN-00200 Helsinki (FI). AHMAVAARA, Kalle [FI/FI]; Ruostekuja 3 D 24, FIN-01610 Vantaa (FI). (74) Agent: PATENTTITOIMISTO TEKNOPOLIS KOLSTER OY; c/o Kolster OY AB, Iso Roobertinkatu 23, P.O. Box 148, FIN-00121 Helsinki (FI).</p>	<p>(81) Designated States: AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> (88) Date of publication of the international search report: 11 February 1999 (11.02.99)</p>	

(54) Title: METHOD FOR TRANSMITTING PACKET SWITCHED DATA IN A MOBILE COMMUNICATIONS SYSTEM

(57) Abstract

The invention relate to a method for transmitting packet switched data in a mobile communications system using an ARQ protocol. In the method the receiver requests, if necessary, retransmissions (212) of the originally sent transmission unit (212), until the quality of the combined transmission unit formed (208) of the originally sent transmission unit and its retransmitted copies corresponds to the predetermined quality level (210). The signal is not detected (214) until after this. If the packet is interleaved and encoded and it is found out that the packet is not faultless (218), retransmissions of the transmission units of the packet that are of the poorer quality are requested (220). The invention also relates to a mobile communications system implementing the method of the invention.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 98/00365

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04L 1/18

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)

IPC6: H04L

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

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5168502 A (GUY MILLET), 1 December 1992 (01.12.92), see the whole document	1, 19
Y	--	2-18, 20-22
Y	EP 0595637 A1 (NOKIA MOBILE PHONES LTD.), 4 May 1994 (04.05.94), column 1, line 1 - column 4, line 1, abstract	2-18, 20-22
P, X	US 5677918 A (PHIEU MOC TRAN ET AL), 14 October 1997 (14.10.97), column 2, line 6 - line 64, abstract, see the claims	1-22
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Further documents are listed in the continuation of Box C. See patent family annex.

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search	Date of mailing of the international search report
5 November 1998	11 -11- 1998

Name and mailing address of the ISA/ Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Göran Magnusson Telephone No. +46 8 782 25 00
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 98/00365

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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A	WO 9306671 A1 (MOTOROLA, INC), 1 April 1993 (01.04.93), abstract --	1-22
A	NTT Review, Volume 9, No 3, May 1997, (Japan), Hideo Matsuki et al, "An error Control Scheme for High-quality, High-speed PHS Data Communications", see the whole document -- -----	1-22

INTERNATIONAL SEARCH REPORT

Information on patent family members

05/10/98

International application No.

PCT/FI 98/00365

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