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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04Q 7/38	A1	(11) International Publication Number: WO 99/57935 (43) International Publication Date: 11 November 1999 (11.11.99)
(21) International Application Number: PCT/SE99/00707 (22) International Filing Date: 29 April 1999 (29.04.99) (30) Priority Data: 09/071,886 5 May 1998 (05.05.98) US (71) Applicant: TELEFONAKTIEBOLAGET LM ERICSSON (publ) [SE/SE]; S-126 25 Stockholm (SE). (72) Inventors: LAGNEBORG, Johan; Bergtorpstigen 42, S-125 51 Älvsjö (SE). NORDMAN, Mikael; Kyrk- valla 45, FIN-02400 Kyrkslätt (FI). RUNE, Göran; Sandgårdsgatan 5A, S-582 52 Linköping (SE). PALM, Håkan; Illionsgränden 199, S-224 72 Lund (SE). WAL- LENTIN, Pontus; Mässvägen 2, S-590 71 Ljungsbro (SE). WILLARS, Per; Rindögatan 19, S-115 36 Stockholm (SE). (74) Agent: ERICSSON RADIO SYSTEMS AB; Common Patent Dept., S-164 80 Stockholm (SE).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, 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, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, 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, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i>

(54) Title: MULTICELL AREA PAGING FOR CELLULAR TELECOMMUNICATIONS SYSTEM

(57) Abstract

A radio access network portion of a telecommunications network (18) which serves a mobile station (MS) is connecting to a core network. The radio access network portion has plural base stations (BS) serving respective plural cells (C), as well as plural control nodes (RNCs). The control nodes include a first control node (RNC1) for controlling a first group of the plural base stations and a second control node (RNC2) for controlling a second group of the plural base stations. A multicell area (MCA) includes cells served by at least some of the first group of base stations and cells served by at least some of the second group of base stations. The radio access network portion of a telecommunications network further has a paging control node which stores information regarding the multicell area. To page the mobile station in the multicell area, the paging control node (1) sends paging messages to each of the base stations serving the multicell area controlled by the paging control node; and (2) sends a paging message to any other control nodes which control base stations serving cells in the multicell area. The paging control node determines to which base stations and other control node(s) it should send paging messages by consulting a paging table (100). Preferably the paging control node is one of the control nodes of radio access network. The paging control node is connected to the other control node(s) by an intercontrol node link (32) over which the paging message is sent.

