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WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification⁶ :

H04Q 7/38, 7/22

A1

(11) International Publication Number:

WO 96/07288

(43) International Publication Date:

7 March 1996 (07.03.96)

(21) International Application Number:

PCT/US95/10958

(22) International Filing Date:

29 August 1995 (29.08.95)

(30) Priority Data:

① 08/299,420 ✓

1 September 1994 (01.09.94) ✓ US ✓

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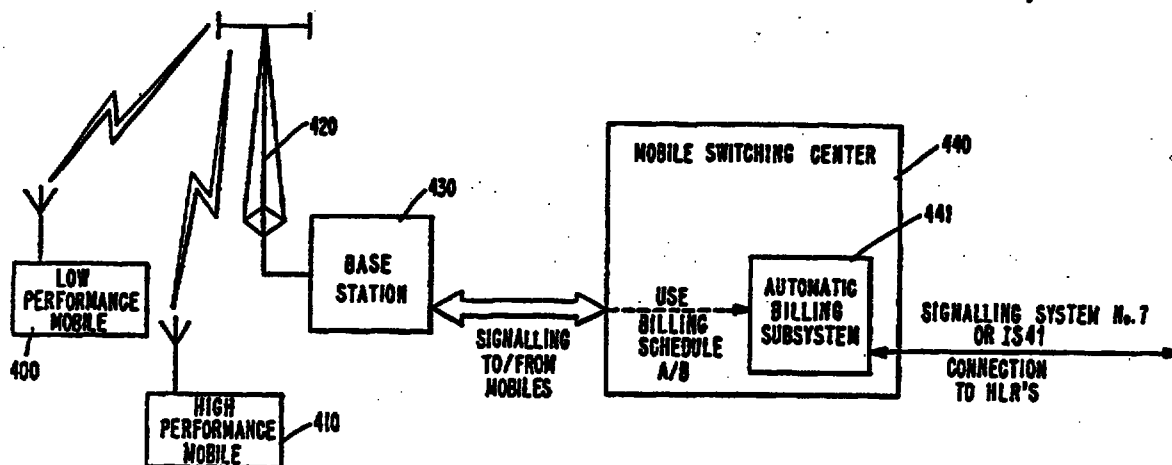
(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).

Published

With international search report. ✓

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: IMPROVING THE PERFORMANCE OF A MOBILE CELLULAR COMMUNICATION SYSTEM ✓



(57) Abstract

System performance in a mobile communications system is improved by detecting whether the mobile unit has a particular capability, and adjusting operation of the base station to improve system performance in response to detection that the mobile unit has the particular capability. The capability may be radio reception with lower signal to interference (C/I) requirements. In this case, system performance may be improved by adjusting base station transmitter power to a reduced power range in response to detection that the mobile unit has the particular capability, thereby creating less interference to mobiles that require a higher C/I, and increasing system capacity. Detection may include receiving a signal from the mobile unit, wherein the signal is encoded to indicate whether the mobile station has the particular capability. Alternatively, the signal may be a signal that is encoded to identify from which one of a plurality of mobile units the identifying signal was received. In this instance, the base station uses the identifying signal to retrieve a capability-indicating code from a database, which may be located in the subscriber's home exchange. In another aspect of the invention, a lower of two billing rates is selected for billing a mobile unit in response to detection that the mobile unit has the particular capability. This passes along system savings to the subscriber, and creates an incentive for the subscriber to purchase the usually more expensive mobile unit that has the particular capability.