

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BO C.V. JOHANSSON,
HÅKAN PERSSON,
and
HÅKAN ANDERSSON

Appeal No. 1999-0084
Application No. 08/448,854

ON BRIEF

Before THOMAS, HAIRSTON, and FLEMING, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 19, 23 through 25 and 29 through 38.

The disclosed invention relates to a mobile telecommunications system, and to the use of a transceiver or transceivers in an overlapping region of neighboring cells to transmit the frequencies assigned to the cells.

Claims 1 and 9 are illustrative of the claimed invention,
and they read as follows:

1. A mobile telecommunication system comprising:

a plurality of cells, each cell being assigned at least one communication frequency containing a plurality of transceiver units and at least one base station for transmitting and receiving radio signals on said at least one frequency, wherein neighboring cells share at least one transceiver unit to create an overlapping region, said shared transceiver unit being able to transmit and receive radio signals on communication frequencies assigned to the cells which are sharing the shared transceiver unit; and

at least one base station controller for controlling the operation of said base stations and connecting said mobile telecommunication system to another communication system.

9. A mobile telecommunication system comprising:

a plurality of cells, each cell being assigned at least one communication frequency and containing a plurality of transceiver units and at least one base station for transmitting and receiving radio signals on said at least one frequency to a plurality of mobile stations, wherein at least one transceiver units of a first cell is placed in close proximity to at least one transceiver units of a neighboring cell to create an overlapping region; and

at least one base station controller for controlling the operation of said base stations in connecting said mobile telecommunication system to another communication system.

The references relied on by the examiner are:

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Mack	4,633,463	Dec. 30, 1986
Persson	5,487,174	Jan. 23, 1996 (filed Mar. 23, 1993)
Toriyama ¹ (published Japanese Kokai Patent Application)	1-273443	Nov. 1, 1989
Menich et al. (Menich) (published World Intell. Prop. Org. Application)	WO 93/19560	Sep. 30, 1993

Claims 1, 6, 9, 14, 17, 23, 29 through 31 and 34 through 36 stand rejected under 35 U.S.C. § 103 as being unpatentable over Menich in view of Mack and Toriyama.

Claims 2 through 5, 7, 8, 10 through 13, 15, 16, 18, 19, 24, 25, 32, 33, 37 and 38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Menich in view of Mack, Toriyama and Persson.

Reference is made to the brief (paper number 19) and the answer (paper number 20) for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us,

¹ A copy of the translation of this reference is attached.

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and we will reverse the obviousness rejection of claims 1 through 19, 23 through 25 and 29 through 38.

Menich discloses a basic GSM system that is concerned with handover control of mobile stations from cell to cell (Figure 1). Each of the base transceiver stations (BTS) in each cell includes a plurality of transceivers 32 through 34 (Figure 2). Although overlap of adjacent cells is discussed (page 1, lines 17 through 22), Menich is completely silent concerning the placement of the transceivers and the frequencies that they transmit in the overlapping region.

The examiner indicates (answer, page 3) that Menich "fails to show a plurality of cells, each of which is assigned at least one communication frequency and containing a plurality of transceiver units," and "fails to show a transceiver unit which is shared by a plurality of overlapping cells wherein the transceiver unit both transmits and receives signals on frequencies assigned to the cells." The examiner turns to Mack and Toriyama for the teachings missing in Menich.

Mack discloses a radio communication system (Figure 1) that uses a plurality of central stations 10, 26, 42 and 62.

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The operating transmission ranges of omnidirectional antennas at each of the central stations 10, 26, 42 and 62 are denoted by numerals 24, 40, 60 and 72, respectively. The central station 10, for example, communicates with fixed remote stations 12 through 16 via directional antennas 12a through 16a, respectively (column 3, lines 17 through 35). "Each central station transmits at a distinct frequency and each remote station assigned thereto receives at the frequency of its assigned central station and transmits at a different frequency, unique to itself" (Abstract). Based upon a broad statement in Mack (column 2, lines 3 through 7) that "[m]ore particular objects of the invention are to provide improved transmission quality monitoring and adaptiveness in a communication system itself having improved set up time . . . , " the examiner concludes (answer, page 3) that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of handover of Menich et al. by including a plurality of cells containing a plurality of transceiver units as taught by Mack "

Toriyama discloses a cordless telephone system (Figure 1) that expands the service area of base unit 1A via the use of base relay units 1B and 1C. Although handset 2B1, for example, is out of the normal service area 4A of base unit 1A, a call can reach 2B1 from base unit 1A via the radio link between base unit 1A and handset 2A1, the wired link between the handset 2A1 and base relay unit 1B, and the radio link between base relay unit 1B and handset 2B1. According to the examiner (answer, page 4), "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of handover of Menich et al. in view of Mack by including transceiver units shared by a plurality of overlapping cells which transmit and receive signals at frequencies assigned to the cells as shown by Toriyama in order to create a larger overlapping region in which mobile stations are handed over and to prevent the signal strength of the cells from dropping below a predetermined level in the overlapping region."

Appellants argue (brief, page 6) that:

Because the disclosed remote stations [in Mack] are stationary, one of ordinary skilled [sic] in the art would have no motivation to rely on the teaching of

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Mack for the handover method of Menich et al. The Appellant [sic] respectfully submits that the teaching of Mack is completely unrelated to a handover process and can not be combined with the teaching of the Menich et al [reference], which relates to the handover process. Therefore, there is no valid basis for combining the teaching of Mack with that of Menich et al. and such combination clearly amounts to improper use of hindsight.

We agree with appellants' argument that the skilled artisan would not have looked to the stationary remote station teachings of Mack to modify the mobile station handover teachings of Menich. Turning to Toriyama, we likewise agree with the appellants' argument (brief, page 8) that "[e]xpanding the coverage area of a cordless phone has no relevance to enlarging the overlapping regions of a cellular system for a handover process."

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In summary, the applied references neither teach nor would have suggested the claimed transceiver(s) relationship to the overlapping region of the cells. For this reason, the 35 U.S.C. § 103 rejection of claims 1, 6, 9, 14, 17, 23, 29 through 31 and 34 through 36 is reversed. The 35 U.S.C. § 103 rejection of claims 2 through 5, 7, 8, 10 through 13, 15, 16, 18, 19, 24, 25, 32, 33, 37 and 38 is reversed because the teachings of Persson do not cure the noted shortcomings in the teachings of Menich, Mack and Toriyama.

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DECISION

The decision of the examiner rejecting claims 1 through
19,
23 through 25 and 29 through 38 under 35 U.S.C. § 103 is
reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
KENNETH W. HAIRSTON)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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MICHAEL R. FLEMING)	
Administrative Patent Judge)	

KWH:hh

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