

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KOZO BANNO

Appeal No. 2000-1459
Application No. 08/703,907

ON BRIEF

Before KRASS, JERRY SMITH, and BARRY, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 and 6. Claims 2-5 and 7-20 have been allowed.

The invention is directed to multi-beam satellite

Appeal No. 2000-1459
Application No. 08/703,907

communication systems. More particularly, the conventional manner of determining a new satellite communication beam to be selected based on a computed position and a moving direction of a mobile unit requires determination of adjacent beams, the selection of a switching candidate and the determination of availability of the candidate, calculations which require a long period of time, resulting in disconnected calls during this time. The instant invention is said to solve this problem by providing a position-beam correspondence data table which stores data correlating each of a plurality of regions on the ground to a particular beam of the multi-beam communication satellite covering the general area. Once the position of the mobile terminal is computed, this position is used to index the position-beam correspondence data table and looks up the corresponding beam in the table. In this manner, the appropriate beam selection is determined at any time merely by determining the ground position of the mobile satellite communication terminal and accessing the position-beam correspondence data table. Unlike the conventional systems, it is not necessary to wait until communication line quality starts to deteriorate before initiating a beam

Appeal No. 2000-1459
Application No. 08/703,907

switching procedure. Further, complex calculations are not required.

Representative independent claim 6 is reproduced as follows:

6. An automatic beam switching apparatus in a multi-beam satellite communication system comprising:

a position computing means for computing a first position of a mobile satellite communication terminal;

a position-beam correspondence table having a plurality of stored positions that correspond to a plurality of adjacent beams; and

a beam switching means for selecting a first beam by referencing said position-beam correspondence table using said computed first position of said mobile satellite communication terminal.

The examiner relies on the following reference:

Moritz et al. [Moritz] 5,483,664 Jan. 9 1996
[filed Jul. 26, 1993]

Claims 1 and 6 stand rejected under 35 U.S.C. 102(e) as anticipated by Moritz.

Reference is made to the briefs and answer for the respective positions of appellant and the examiner.

OPINION

We REVERSE.

Claims 1 and 6 require a "position-beam correspondence table" from which a beam is selected by referencing the table using a computed position of a mobile satellite communication terminal. Moritz neither discloses nor suggests such a look-up table.

It is the examiner's position that the storage of ground positions in a position beam correspondence table reads on the cell position data of Moritz, citing column 5, line 54 through column 6, line 10. The examiner identifies the computation of a first position as being disclosed in Moritz at column 7, lines 17-20 and column 9, lines 45-46. The examiner identifies the claimed limitation of "selecting a first beam...by referencing said position-beam correspondence table, utilizing said first position...as an index into said position-beam correspondence table" [claim 1] as reading on channel assignment and schedule, disclosed at column 9, lines 55-65, of Moritz.

However, column 5, line 54 through column 6, line 10 of

Appeal No. 2000-1459
Application No. 08/703,907

Moritz is concerned with a "simulating" positions of cells with respect to the earth. By calculating cell positions, based on orbit position, satellite speed, orbits' distance from the earth and angles of displacement for various beams supported by the satellites' antennas away from the satellites' Nadir directions, Moritz determines the location of the center of each cell and assigns active or inactive status to the cells. Overlaps are declared based on distances between two cells. The cell position simulation and assignment process is repeated numerous times to determine when particular cells go active and inactive. This improves scheduled handoffs in cellular communications since Moritz can anticipate, or forecast, when movement of the cells will cause a subscriber unit to cross cell boundaries.

We find nothing in the cited portion of Moritz, column 5 to column 6, that suggests anything about a position-beam correspondence table, as claimed. With regard to the scheduler of Moritz, cited by the examiner, as pointed out by appellant in the reply brief, it is clear that schedule 800 in Figure 8 of Moritz stores a channel/cell list indexed against time, not position. Also, Moritz discloses a process for

Appeal No. 2000-1459
Application No. 08/703,907

finding a possible reconnection cell when a signal has been lost, by searching in frequency, time and/or coding, [column 11, lines 52-58 of Moritz] but there is no indication of any table, wherein access to the table by the position of a mobile satellite communication terminal can be used to select a beam of a plurality of beams, as required by instant claims 1 and 6.

Since the examiner has failed to present a prima facie case

of anticipation, the examiner's decision rejecting claims 1 and 6

under 35 U.S.C. 102(e) is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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JERRY SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND

Appeal No. 2000-1459
Application No. 08/703,907

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