

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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KARL J. MOLNAR,
and PAUL W. DENT

Appeal No. 2001-0906
Application No. 08/597,073

ON BRIEF

Before HAIRSTON, KRASS, and JERRY SMITH, Administrative Patent Judges.
HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This appeal involves claims 1 through 7, 9 through 12, 14, 16 through 19 and 21 through 29.

The disclosed invention relates to a method for estimating a position of a terminal in a radio-communication system that uses an array to illuminate areas with spot beams.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A method for estimating a position of a terminal in a radiocommunication system using an array to illuminate areas with spot beams, comprising the steps of:

measuring a received power associated with each of a plurality of said spot beams;

determining relative powers associated with said received power by comparing said measured, received powers with a reference power; and

estimating said position of said terminal using said relative powers and a model of spot beam shape.

The references relied on by the examiner are:

Hutcheson et al. (Hutcheson)	5,551,058	Aug. 27, 1996 (filed Oct. 31, 1994)
Hutcheson et al. (Hutcheson)	5,551,059	Aug. 27, 1996 (filed Oct. 31, 1994)
Olds et al. (Olds)	5,905,443	May 18, 1999 (effective filing date Oct. 2, 1995)

Claims 1 through 7, 11, 12, 16 through 19, 21 through 23 and 27 through 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hutcheson '058 in view of Olds.

Claims 9, 10, 14 and 24 through 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hutcheson '058 in view of Olds and Hutcheson '059.

Reference is made to the supplemental brief (paper number 21) and the answer (paper number 23) for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 1 through 7, 9 through 12, 14, 16 through 19 and 21 through 29.

The examiner is of the opinion (answer, page 4) that Hutcheson '058 discloses all of the claimed subject matter of claims 1 through 7, 11, 12, 16 through 19, 21 through 23 and 27 through 29 except for “estimating the position of the terminal using the relative powers and a model of spot beam shape.” According to the examiner (answer, page 4), “**Olds, et al** teaches the use of estimating the position of a terminal using a model of spot beam shape (column 14, lines 33-38) in a method in a radio communication system using an array to illuminate areas with spot beams for the purpose of evaluating other beams sufficiently qualified to have been selected to transmit to the terminal.” Based upon the teachings of Olds, the examiner concluded (answer, pages 4 and 5) that “it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the use of estimating the position of a terminal using a model of spot beam shape, as taught by **Olds, et al**, in the method of estimating a position of a terminal in a radio communication system of **Hutcheson, et al**, for the purpose of evaluating other beams sufficiently qualified to have been selected to transmit to the terminal in order [to] determine an effective received signal quality associated with other beams in relation to the terminal.”

Appellants argue (supplemental brief, page 5) that Hutcheson '058 does not disclose the last two steps of claim 1. With respect to the step of “determining relative powers,” appellants argue

that Hutcheson '058 compares the received control channel sample against a threshold value to yield a binary yes or no answer. Notwithstanding the outcome of the comparison, Hutcheson '058 compares the "received power level" (column 5, lines 38 through 43) of the received control channels against a threshold value or reference power (column 5, lines 50 through 52). Appellants' argue (supplemental brief, page 5) that the cell selection process in Hutcheson '058 "is concerned with determining a 'range rate' associated with a terminal and a transceiver, i.e., the relative rate at which the terminal unit is approaching or receding from the transceiver" and not with "estimating the position of the terminal." We agree. Hutcheson is completely silent as to estimating a position of the terminal using the relative powers as set forth in the penultimate step of claim 1. Appellants argue (supplemental brief, page 7) that the secondary reference to Olds discloses the use of "beam propagation models" to determine an effective receive signal quality associated with beams, and does not use a "model of spot beam shape" in estimating a position of the terminal. We agree. Accordingly, the obviousness rejection of claims 1 through 7, 16 through 19, 21 through 23 and 27 through 29 is reversed because the combined teachings of Hutcheson '058 and Olds neither teaches nor would have suggested to one of ordinary skill in the art the ultimate step of claim 1 or the penultimate step of claim 16.

Hutcheson '059 was relied on by the examiner for its teaching of the "use of Doppler compensation (Abstract, etc.) for the purpose of equalizing the various input signal for differences in Doppler frequency offsets due to satellite motion, differences in propagation delays and differences in phase shift" (answer, page 7). Appellants argue (supplemental brief, page 8) that

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“although Hutcheson ‘059 mentions the use of Doppler compensation *per se*, Hutcheson ‘059 does not teach or suggest locating a terminal using relative powers and a model of spot beam shape and using said location of said terminal to determine a Doppler compensation.” We agree. Thus, the obviousness rejection of claims 9 through 12, 14 and 21 through 26 is reversed.

DECISION

The decision of the examiner rejecting claims 1 through 7, 9 through 12, 14, 16 through 19 and 21 through 29 under 35 U.S.C. § 103(a) is reversed.

REVERSED

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KENNETH W. HAIRSTON
Administrative Patent Judge

ERROL A. KRASS
Administrative Patent Judge

JERRY SMITH
Administrative Patent Judge

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