PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:	
	David K. Mesecher
Application No.:	12/901,616
Confirmation No.:	1473
Filed:	October 11, 2010
For: CODE DIVISION MULTIPLE ACCESS TRANSMISSION ANTENNA WEIGHTING	
Group:	2634
Examiner:	Tesfaldet Bocure

Our File:	I-2-0108US08
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ARGUMENTS ACCOMPANYING PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Commissioner for Patents
P.O. Box 1450
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Sir:

A Pre-Appeal Brief Review is hereby requested in the above-identified patent application for the following reasons:

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al., Yoshida hereinafter (U.S. patent number 6,359,864) in view Vook et al., Vook hereinafter (U.S. patent number 5,982,327, previously cited by Applicant).

> Pending claim 13 specifies a user equipment comprising:
>
> circuitry configured to receive a signal transmitted by a plurality of antennas; wherein the signal includes user data that was combined with a plurality of different pseudo noise sequences; wherein the user data was weighted prior to transmission; wherein the signal includes for each of the plurality of antennas pilot bits; wherein the pilot bits for each antenna were derived from a plurality of different pseudo noise sequences;
>
> the circuitry is further configured to derive preferred weights for a subsequent received signal based on the received signal;
>
> the circuitry is further configured to transmit an indication of the preferred weights to a base station;
>
> the circuitry is further configured to recover user data from each of the different pseudo noise sequences; and
>
> the circuitry is further configured to combine the recovered user data from each of the different pseudo noise sequences.

The Advisory Action states Yoshida discloses in FIG. 2 that a user will receive the signal produced and transmitted from one of the spreading circuits 101-1 to 101-k comprising a unique code. However, Yoshida does not teach or suggest the combining of user data with a plurality of different pseudo noise sequences. Yoshida clearly states each respective user is assigned a unique code. The despreader of Figure 13 shows that multiple data signals are received on each antenna. Each multiple data signal is processed and combined prior to being outputted. Also, Yoshida does not teach or suggest producing pilot bits for each antenna of a plurality of antennas, wherein the pilot bits for each antenna are derived using different pseudo noise sequences. Yoshida describes the pilot signal spreading circuits (encoder) as, "pilot spreading circuits 104-1 to 104-N (N is an integer not less than two). The pilot encoder is describe as an integer not less than

two which cannot be interpreted as the pilot bits for each antenna and are derived using different pseudo noise sequences.

Vook teaches a method of a subscriber unit receiving the same data signal over several antennas based on a process using at least two covariance matrices and at least two steering vectors determined from the pilot symbols. Vook also teaches that if more than one transmitter is assigned to transmit to the receiver in a time-frequency slot, then an access technique called spatial division multiple access (SDMA) is used by the receiver. Vook teaches the communication receiver to receive, separately, the signals transmitted by the multiple transmitters sharing the same time-frequency slot. However, Vook does not teach the recovering of user data from each of the different pseudo noise sequences and combining of the recovered user data from each of the different pseudo noise sequences. Covariance matrices and steering vectors are not pseudo noise sequences.

Claim 14 is dependent upon claim 13, and the Applicants believe this claim is allowable over the cited references of record for the same reasons provided above.

Claim 15 is rejected under U.S.C. 102(b) as being unpatentable over Yoshida et al., Yoshida hereinafter (U.S. 6,359,864).

> Pending claim 15 specifies a network device comprising:
> circuitry configured to receive weights from a user equipment (UE);
> the circuitry is further configured to produce user data for transmission to the UE;
> the circuitry is further configured to combine the user data with a plurality of different pseudo noise sequences;
> the circuitry is further configured to weight the user data combined with the plurality of different pseudo noise sequences;
> the circuitry is further configured to produce pilot bits for each antenna of a plurality of antennas; wherein the pilot bits for each antenna are derived using different pseudo noise sequences; and

> the plurality of antennas configured to transmit the weighted user data combined with the plurality of different pseudo noise sequences and the produced pilot bits for the plurality of antennas to the UE.

The Advisory Action states Yoshida discloses in FIG. 1 that user spreading circuits 101-1 to 101-k in the transmitter spread users signals 10-1 to 10-k stations with unique codes. Each respective user is assigned a unique code for use in the transmission of data. Yoshida also discloses that the receiver detects the reception signal and extracts the user signal. However, Yoshida does not teach or suggest the combining of user data with a plurality of different pseudo noise sequences. In order to combine user data, multiple data signals for an individual user are combined with a plurality of different pseudo noise sequences and are transmitted and received as shown in the despreader of Figure 13. Yoshida clearly states each respective user is assigned a unique code which is used to transmit and receive data. Also, Yoshida does not teach or suggest producing pilot bits for each antenna of a plurality of antennas, wherein the pilot bits for each antenna are derived using different pseudo noise sequences. Yoshida describes the pilot signal spreading circuits (encoder) as, "pilot spreading circuits 104-1 to 104-N (N is an integer not less than two). The Applicant respectfully disagrees with the Examiner's assertion that the pilot spreading encoder may be interpreted as, "the circuit configured to produce pilot bits for each antenna of a plurality of antennas; wherein the pilot bits for each antenna are derived using different pseudo noise sequences."

Accordingly, the Applicant respectfully requests a Pre-Appeal Brief Review.

Respectfully submitted,

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Enclosures