

Amendments to the Claims:

This listing of the claims will replace all prior versions of the claims in the application:

1-12. (Cancelled)

13. (Previously presented) A receiving device comprising:

circuitry configured to receive a signal transmitted by a plurality of antennas; wherein the received signal includes a single user data that was combined with a different sequence for each antenna; wherein the received signal includes pilot bits for each of the plurality of antennas; wherein the pilot bits for each antenna were derived from a different sequence for that antenna;

the circuitry is further configured to derive preferred weights for the received signal based on the pilot bits for each antenna;

the circuitry is further configured to recover the single user data signal from each of the different sequences; and

the circuitry is further configured to combine the recovered single user data signal from each of the different sequences.

14. (Previously presented) A method for use by a receiving device, the method comprising:

receiving, by the receiving device, a signal transmitted by a plurality of antennas; wherein the received signal includes a single user data signal that was

combined with a different sequence for each antenna; wherein the received signal includes pilot bits for each of the plurality of antennas; wherein the pilot bits for each antenna were derived from a different sequence for that antenna;

deriving, by the receiving device, preferred weights for the received signal based on the pilot bits for each antenna;

recovering, by the receiving device, the single user data signal from each of the different sequences; and

combining, by the receiving device, the recovered single user data signal from each of the different sequences.

15. (Previously presented) A transmitting device comprising:

circuitry is configured to generate a single user data signal for transmission to a receiving device;

the circuitry is further configured to combine the single user data signal with a different sequence for each antenna of a plurality of antennas;

the circuitry is further configured to produce pilot bits for each antenna of the plurality of antennas; wherein the pilot bits for each antenna are derived using a different sequence from a plurality of different sequences for each antenna to permit the receiving device to derive weights for each antenna; and

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the plurality of antennas configured to transmit the single user data combined with the plurality of different sequences and the produced pilot bits for the plurality of antennas to the receiving device.