

## CLAIMS

What is claimed is:

1. A user equipment (UE) comprising:  
circuitry configured to receive signal(s) transmitted by plurality of antennas of a base station; wherein the received signal having from each transmitting antenna a sequence of symbols unique to that antenna and the received signal having a weighted sequence of symbols transmitted from all of the plurality of antennas; wherein the circuitry is further configured to derive a preferred weight for a subsequent received signal based on the received signal and transmit an indication of the preferred weight to the base station.
2. The UE of claim 1, wherein the sequences of symbols from each antenna and the weighted sequence of symbols are derived from a same type of sequence.
3. The UE of claim 2, wherein the same type of sequence is a pseudo random sequence.
4. The UE of claim 2, wherein the sequences of symbols from each antenna are pilot symbols.
5. A base station comprising:  
a plurality of antennas that transmit signal(s), wherein each signal comprises a sequence of symbols unique to each one of the plurality of antennas and the signal has a weighted sequence of symbols,  
wherein the antenna is configured to receive a signal indicating a preferred weight for a subsequent transmission signal based on the preferred weight.
6. The base station of claim 5, wherein the sequences of symbols and the weighted sequence of symbols are derived from a same type of sequence.

7. The base station of claim 6, wherein the same type of sequence is a pseudo random sequence.

8. The base station of claim 6, wherein the sequences of symbols are pilot symbols.

9. A method for deriving a preferred weight for a received signal from a Node B based on a received signal and transmitting an indication of the preferred weight to the base station comprising:

receiving signal(s) transmitted by plurality of antennas of a base station wherein the received signal has from each transmitting antenna a sequence of symbols unique to that antenna and the received signal has a weighted sequence of symbols transmitted from all of the plurality of antennas;

deriving a preferred weight for a subsequent received signal based on the received signal; and

transmitting an indication of the preferred weight to the base station.

10. The method of claim 9, wherein the sequences of symbols and the weighted sequence of symbols are derived from a same type of sequence.

11. The method of claim 10, wherein the same type of sequence is a pseudo random sequence.

12. The method of claim 10, wherein the sequences of symbols are pilot symbols.