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(54) **METHOD AND APPARATUS FOR ANTENNA DIVERSITY IN A WIRELESS COMMUNICATION SYSTEM**

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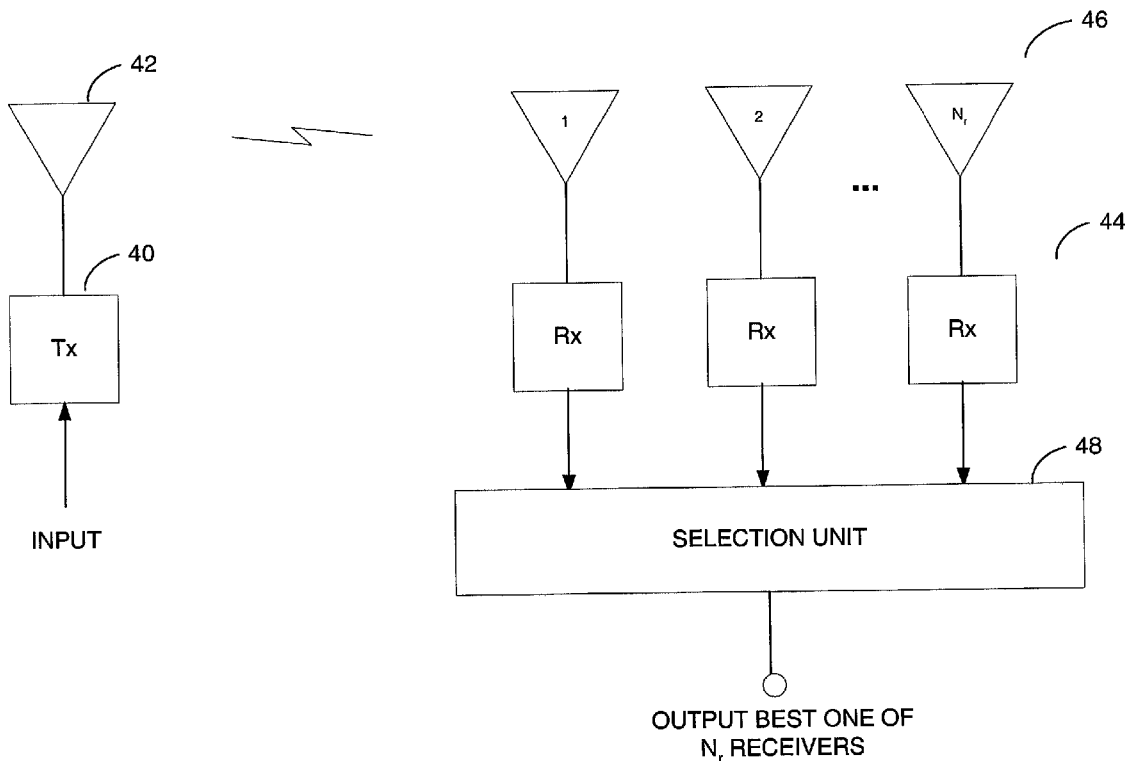
(57) **ABSTRACT**

Method and apparatus for negotiating a transmission scenario in a mixed mode spectrum wireless communication system capable of both MISO and SISO traffic. The transmitter determines an antenna diversity configuration for a given communication link and applies a transmission scenario. The base station queries the remote station for antenna diversity status. In response to the antenna diversity status information, the base station determines and applies a transmission scenario. In one embodiment, a base station generates composite MIMO transmissions to multiple SISO mobile stations.

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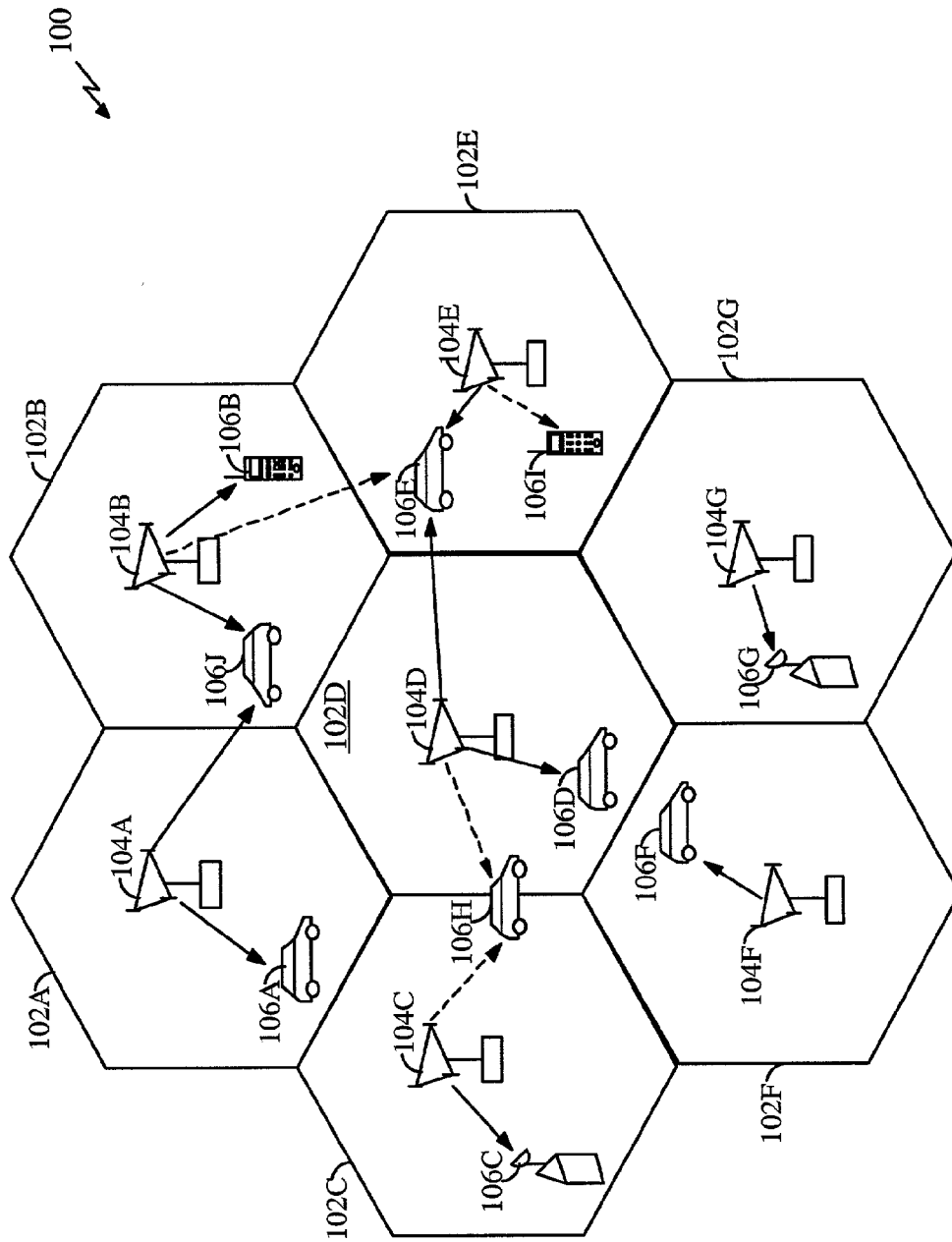


FIG. 1

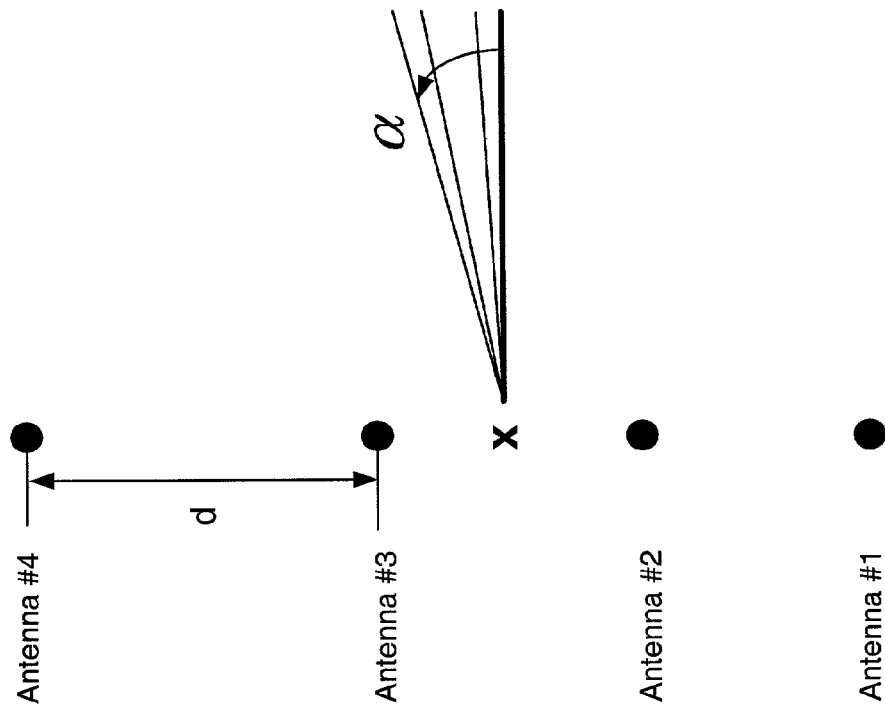


FIG. 2

Number of Receive Antennas

1	N_r
1	SISO
N_t	MISO
	MIMO

Number of Transmit Antennas

FIG. 3

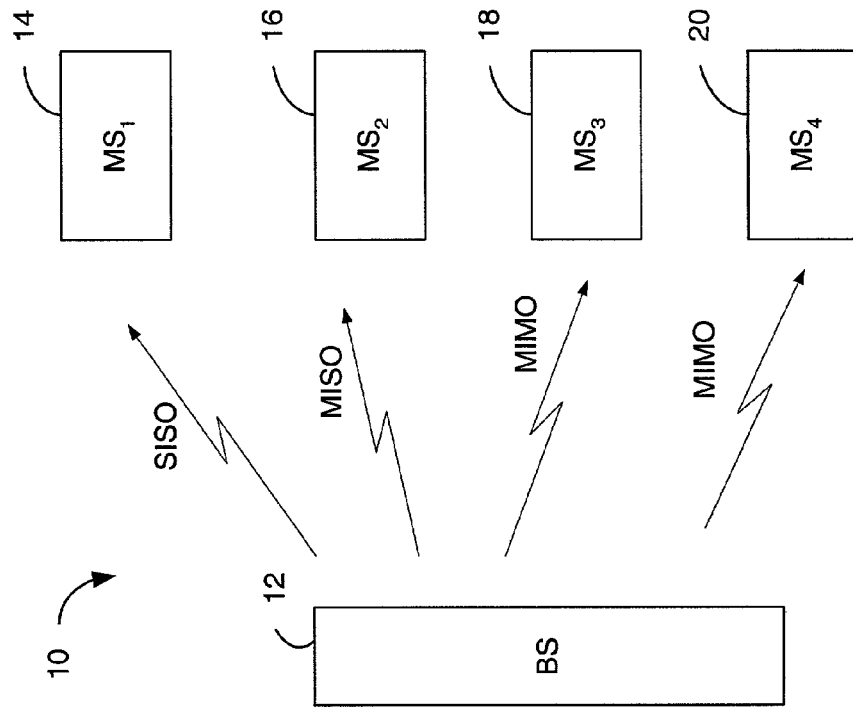


FIG. 5

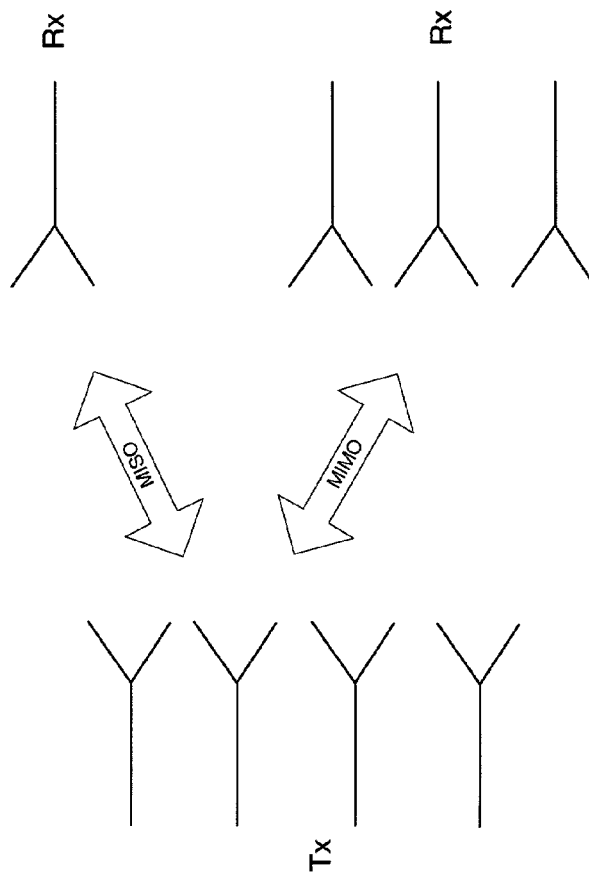


FIG. 4

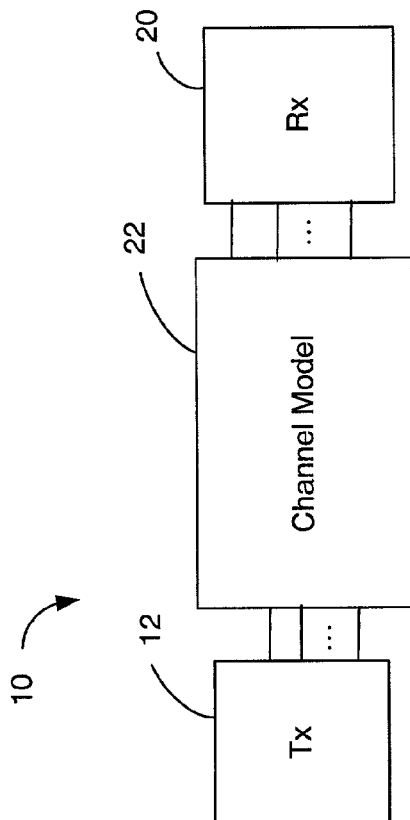


FIG. 6

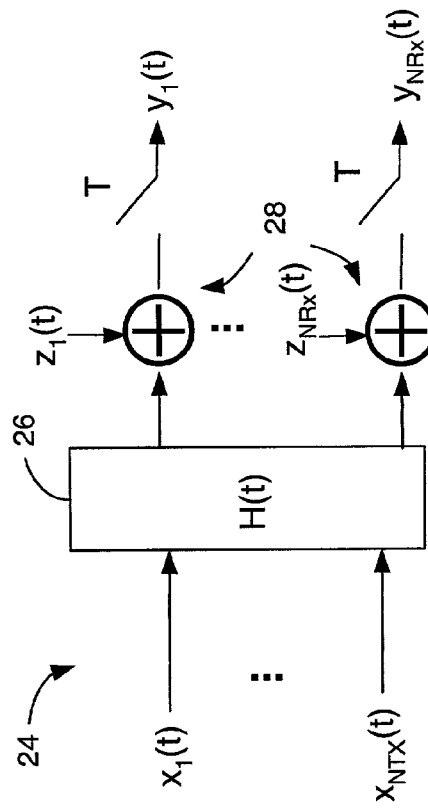


FIG. 7

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