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(54) **TRANSMIT DIVERSITY FRAMING  
STRUCTURE FOR MULTIPATH CHANNELS**

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(57) **ABSTRACT**

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Systems and techniques are disclosed for framing and processing single-carrier and/or OFDM transmit-diversity transmissions through delay-spread channels, as well as for deframing and processing the corresponding merged signals, received from a plurality of antennas, to estimate the transmitted information. Time-domain processing techniques may be used for both types of transmissions to create multiplexed dual signal-unit pairs, particularly when cyclic prefixes are needed to reduce delay-spreading effects. Repetitive pilot words may be employed in burst preambles and/or in payloads of transmission bursts to minimize or provide flexibility in the amount of bandwidth that is consumed to generate good channel response estimates under changing channel conditions.

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**Related U.S. Application Data**

(63) **Continuation-in-part of application No. 10/099,556,  
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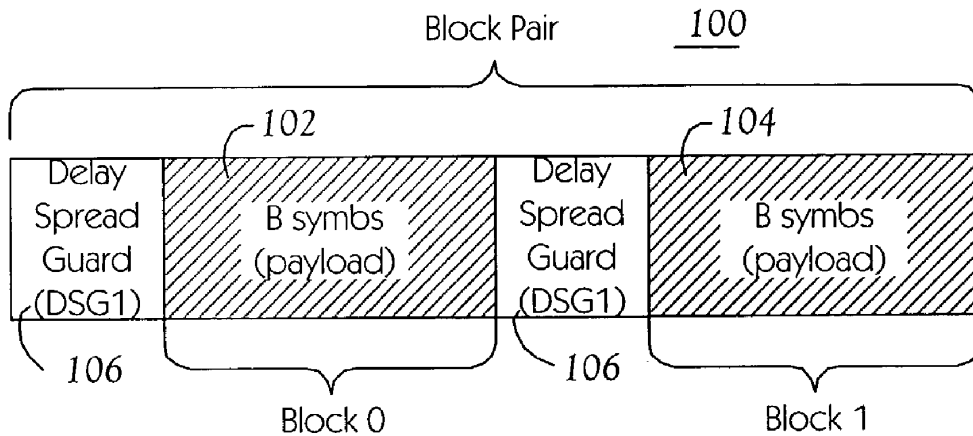


FIG. 1

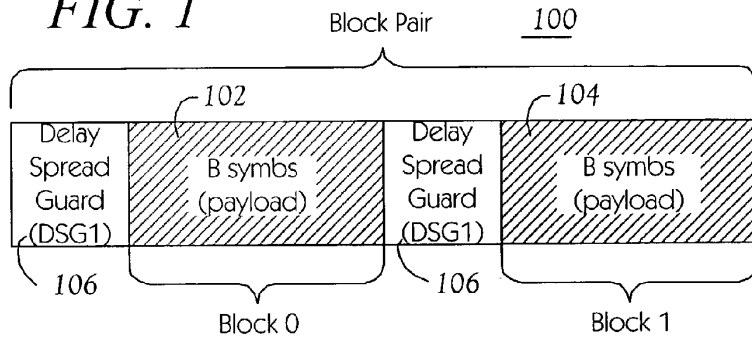


FIG. 2

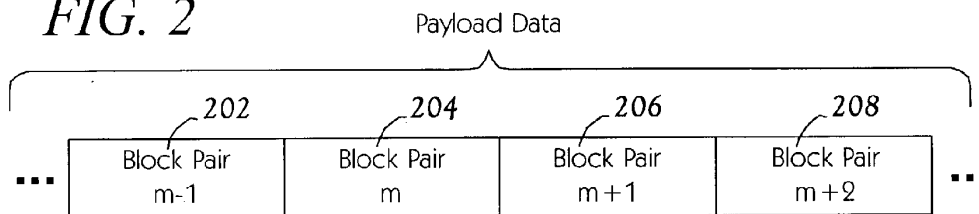


FIG. 3

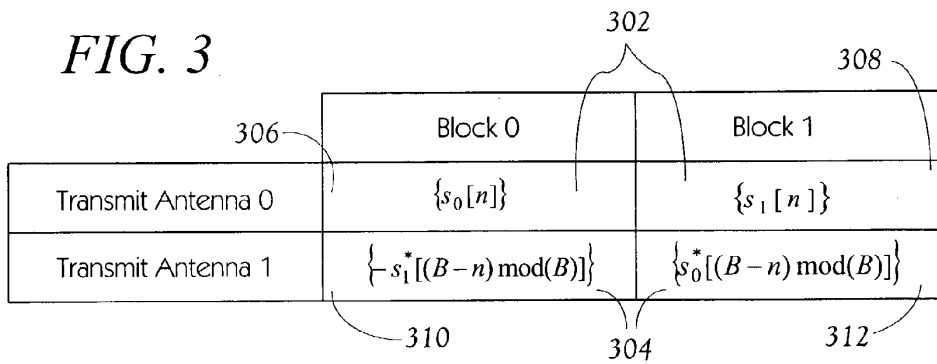
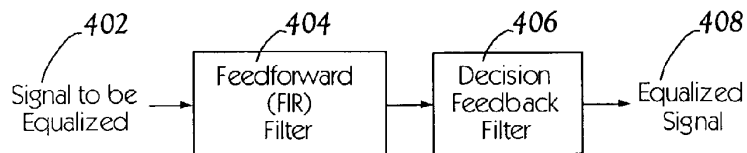
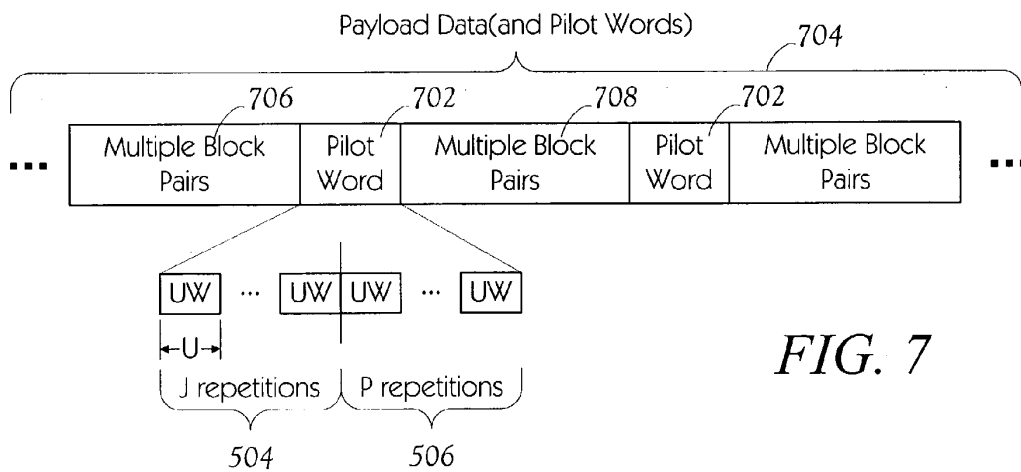
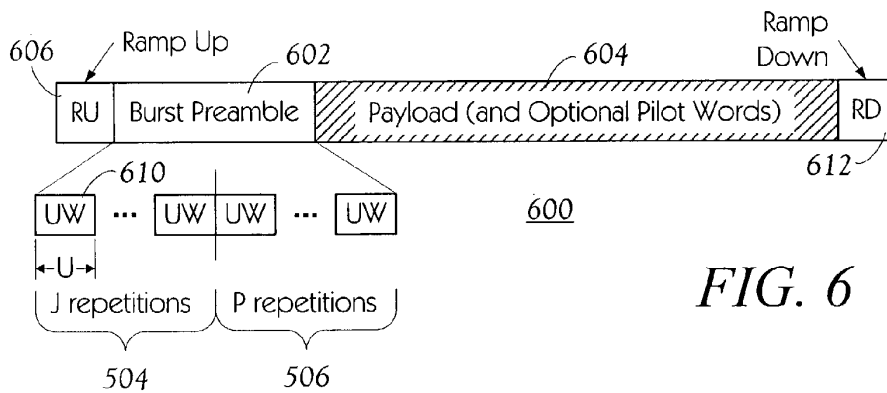
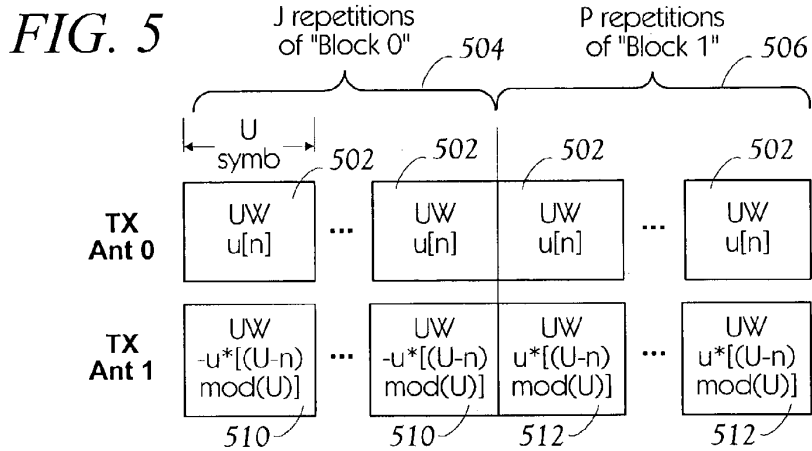


FIG. 4





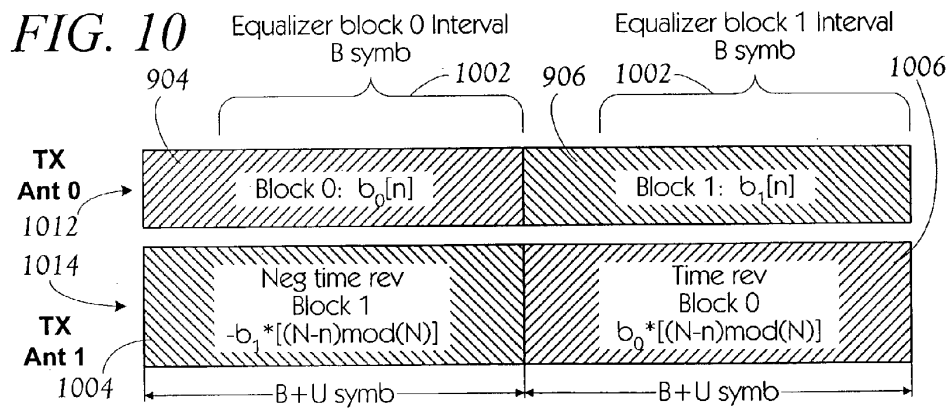
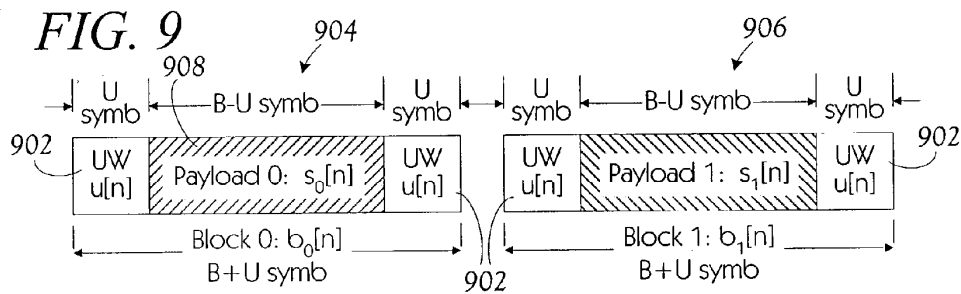
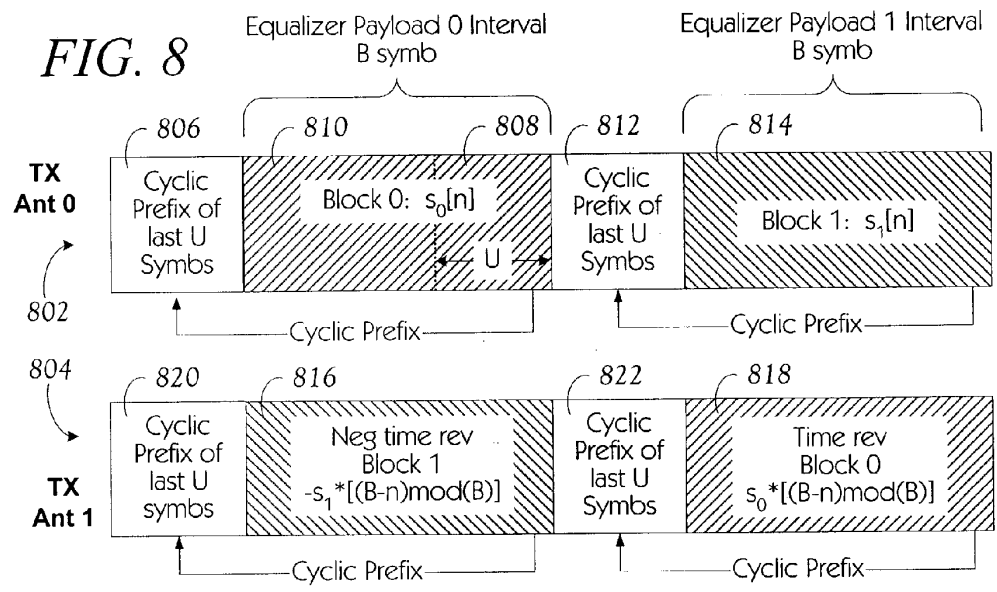
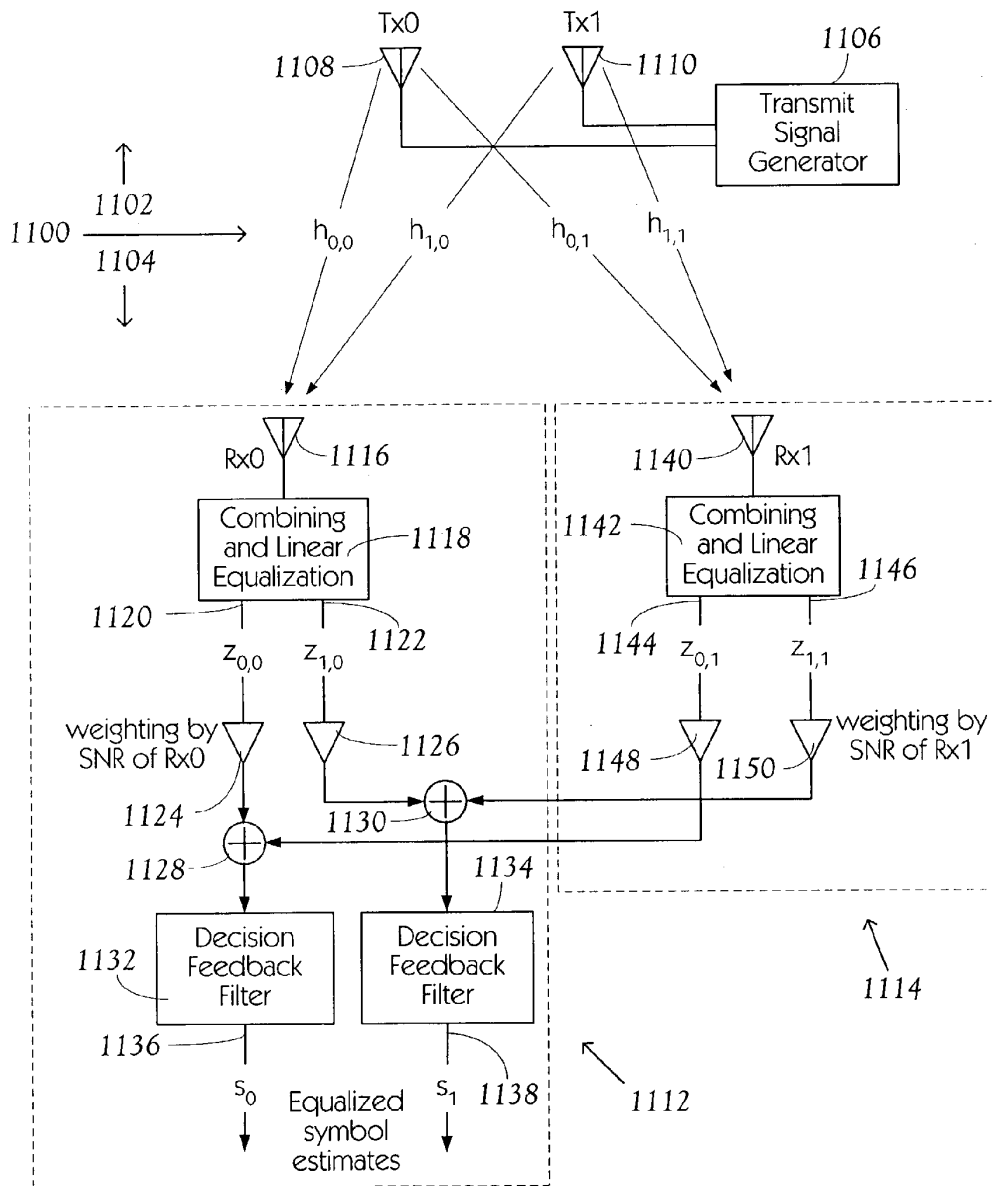


FIG. 11



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