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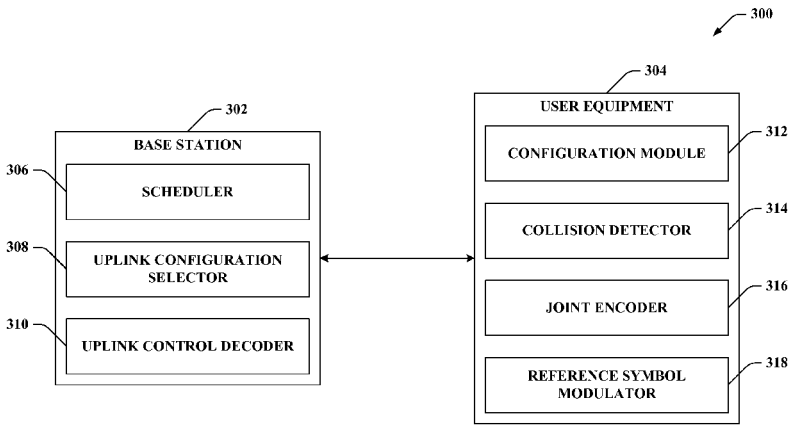


FIG. 3

(57) Abstract: Systems and methodologies are described that facilitate simultaneous transmission of control information in a single sub-frame. For instance, simultaneous transmission can maintain single carrier waveforms for a control channel even when a plurality of information types is scheduled in concurrently. Channel quality indicators, scheduling requests and acknowledgement messages can be jointly coded. In addition, reference symbols in a sub-frame can be modulated to indicate values associated with a scheduling request or an acknowledgement message. Moreover, in situations where channel quality indicators, scheduling requests and or acknowledgement messages are simultaneously scheduled, one or more can be dropped. Further, a single carrier constraint can be relaxed to enable simultaneous transmission of information in the sub-frame at different frequencies.

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