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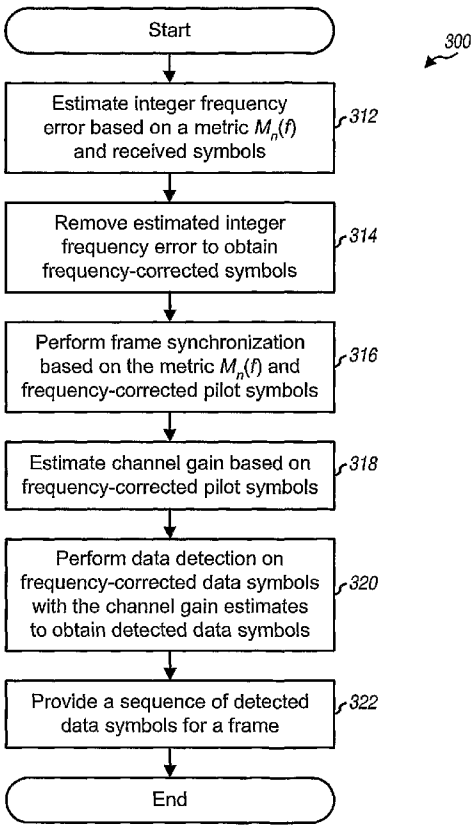
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(54) Title: FREQUENCY ERROR ESTIMATION AND FRAME SYNCHRONIZATION IN AN OFDM SYSTEM



(57) Abstract: Frequency error estimation and frame synchronization are performed at a receiver in an OFDM system based on a metric that is indicative of detected pilot power. The metric may be defined based on cross-correlation between two received symbols obtained in two OFDM symbol periods. For frequency error estimation, a metric value is computed for each of multiple hypothesized frequency errors. The hypothesized frequency error for the metric value with the largest magnitude is provided as the estimated frequency error. For frame synchronization, a correlation value is obtained for each OFDM symbol period by correlating metric values obtained for NC (e.g., most recent) OFDM symbol periods with NC expected values. The expected values are computed in a manner consistent with the manner in which the metric values are computed. Peak detection is performed on the correlation values obtained for different OFDM symbol periods to determine frame synchronization.

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