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(54) Title: NEAR SOFT-OUTPUT MAXIMUM-LIKELIHOOD DETECTION FOR MULTIPLE-INPUT MULTIPLE-OUTPUT SYSTEMS

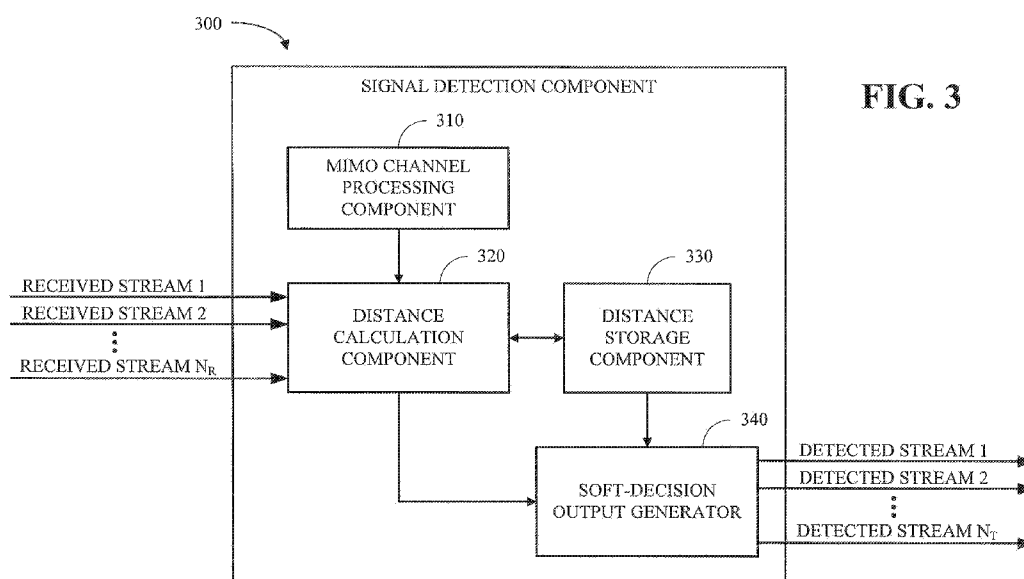


FIG. 3

(57) Abstract: Systems and methodologies are described that provide low-complexity soft-output detection for MIMO communication systems. Looping can be performed over a set of constellation points per spatial stream to obtain distance metrics for each of a series of transmitted streams, for which values for the other transmitted streams can be estimated using a MIMO channel matrix and a sub-optimal MIMO algorithm. Examples of MIMO algorithms that can be utilized include Per-Stream List Detection (PSLD), Lattice-Reduced Detection (LRD), and a Guided-M Algorithm. Performance can be further improved by pre-processing the MIMO channel matrix and/or by utilizing techniques for Enhanced Metric Usage (EMU).

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