



[54] **FREQUENCY HOPPING COMMUNICATION METHOD AND APPARATUS FOR MODIFYING FREQUENCY HOPPING SEQUENCE IN ACCORDANCE WITH COUNTED ERRORS**

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[52] U.S. Cl. **375/132**; 375/131; 375/133; 375/134; 375/135; 375/136; 375/137; 370/343; 370/344; 370/480

[58] Field of Search 375/132, 136, 375/131, 133, 134, 135, 137; 370/344, 343, 480

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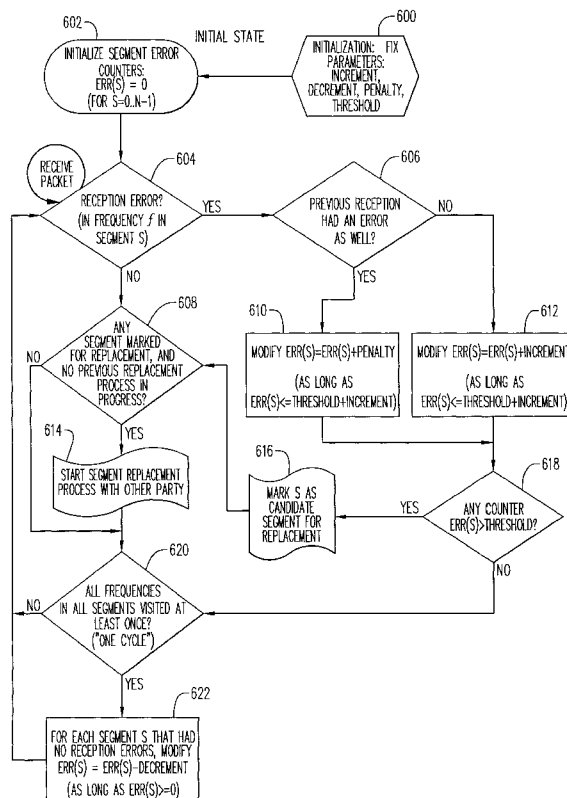
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[57] **ABSTRACT**

The present invention is an apparatus and method thereof for performing frequency hopping (FH) communication with another party over an available spectrum of frequencies. The spectrum is arranged into a plurality of segments, with each segment corresponding to a subset of the frequencies, preferably a contiguous subset of the frequencies. The FH communication apparatus includes a communication device for communicating with another party. The communication device receives data over a sequence of hopping frequencies from the other party, with each of the hopping frequencies being part of a used segment from the plurality of segments. A storage device stores an error value for each used segment. A processing unit identifies a reception error in the received data and an erred segment in which the reception error occurred. The processing unit modifies the error value associated with the erred segment accordingly. The processing unit replaces the erred segment with an unused segment from the plurality of segments to attempt communication over a less error prone segment, when the error value for the erred segment has reached at least a predetermined threshold. The processing unit notifies the other party of the unused segment, which has been newly selected, via the communication device.

16 Claims, 11 Drawing Sheets



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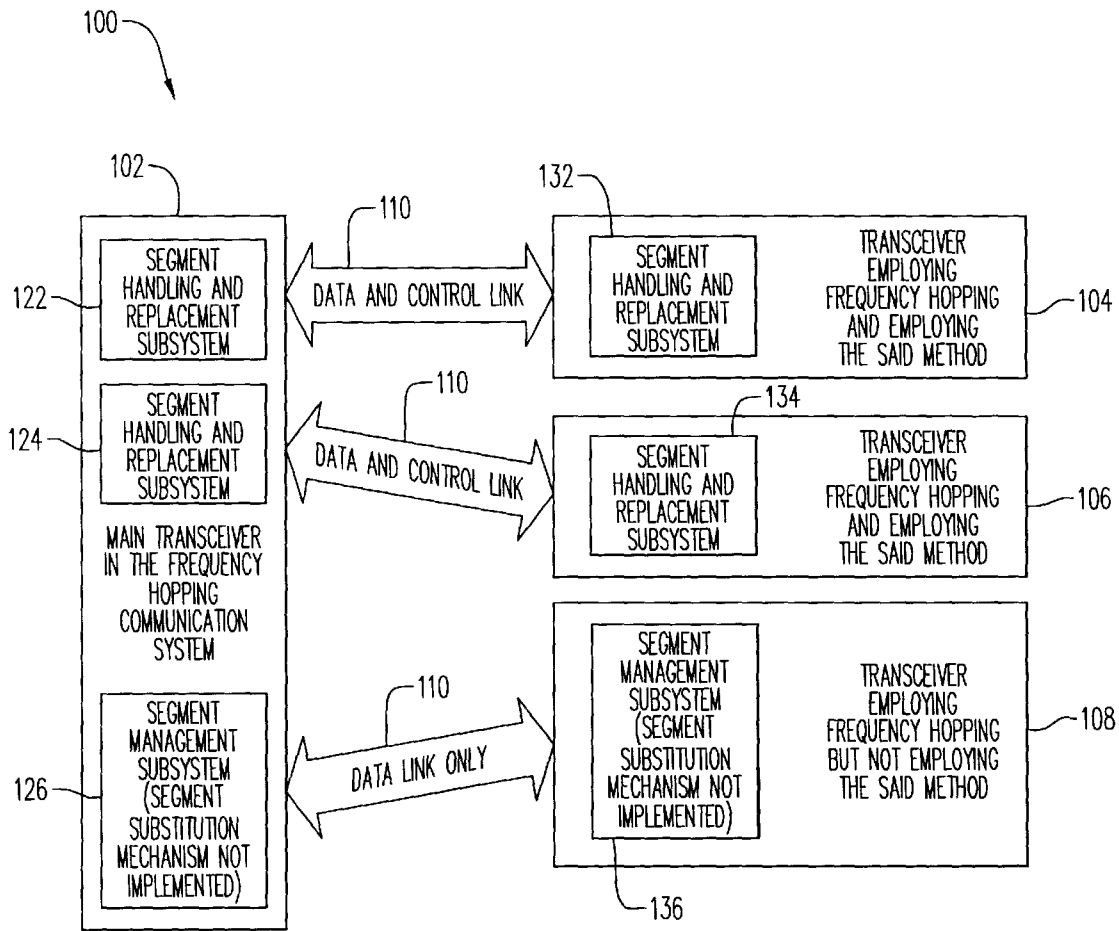
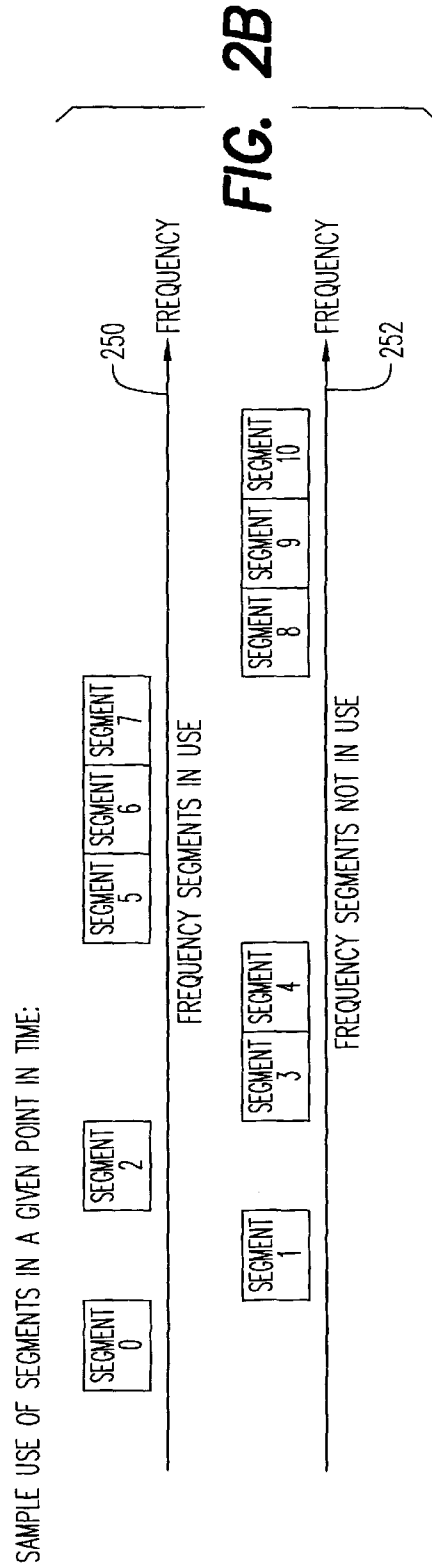
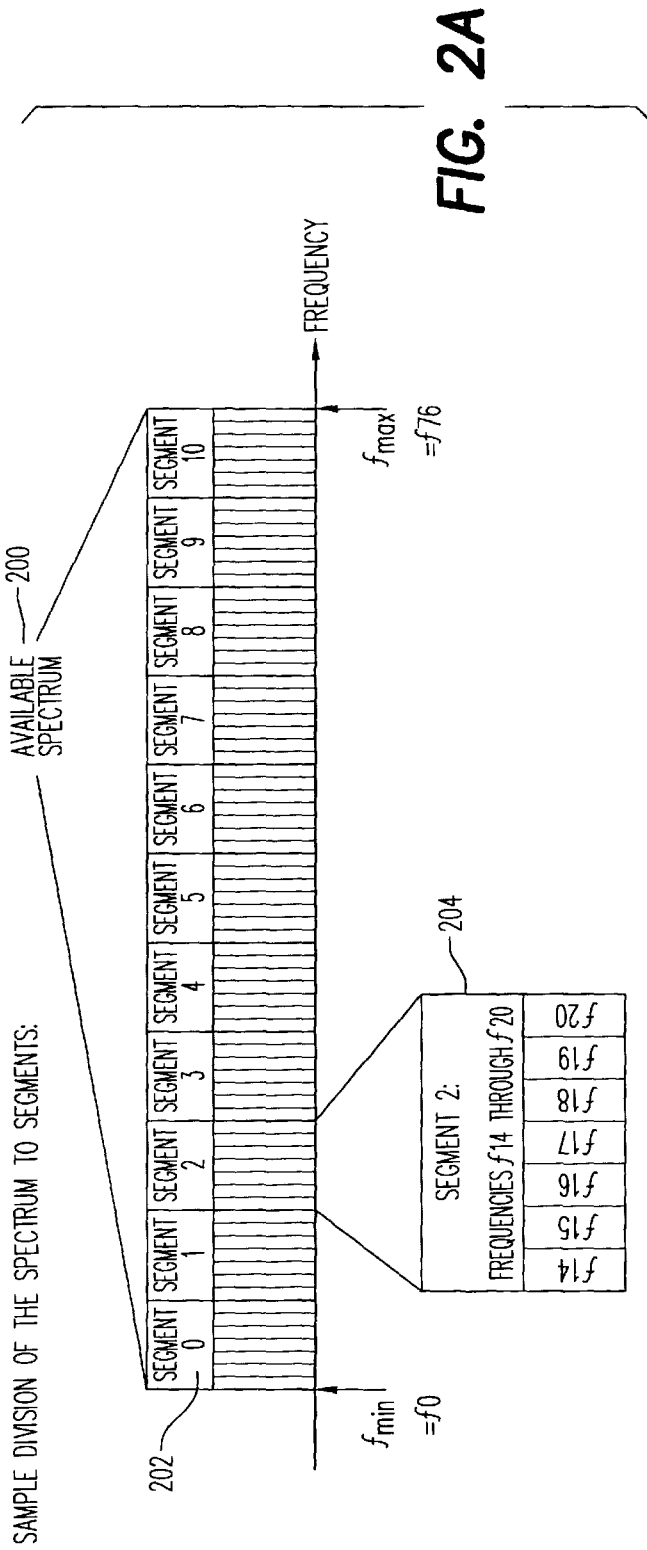


FIG. 1



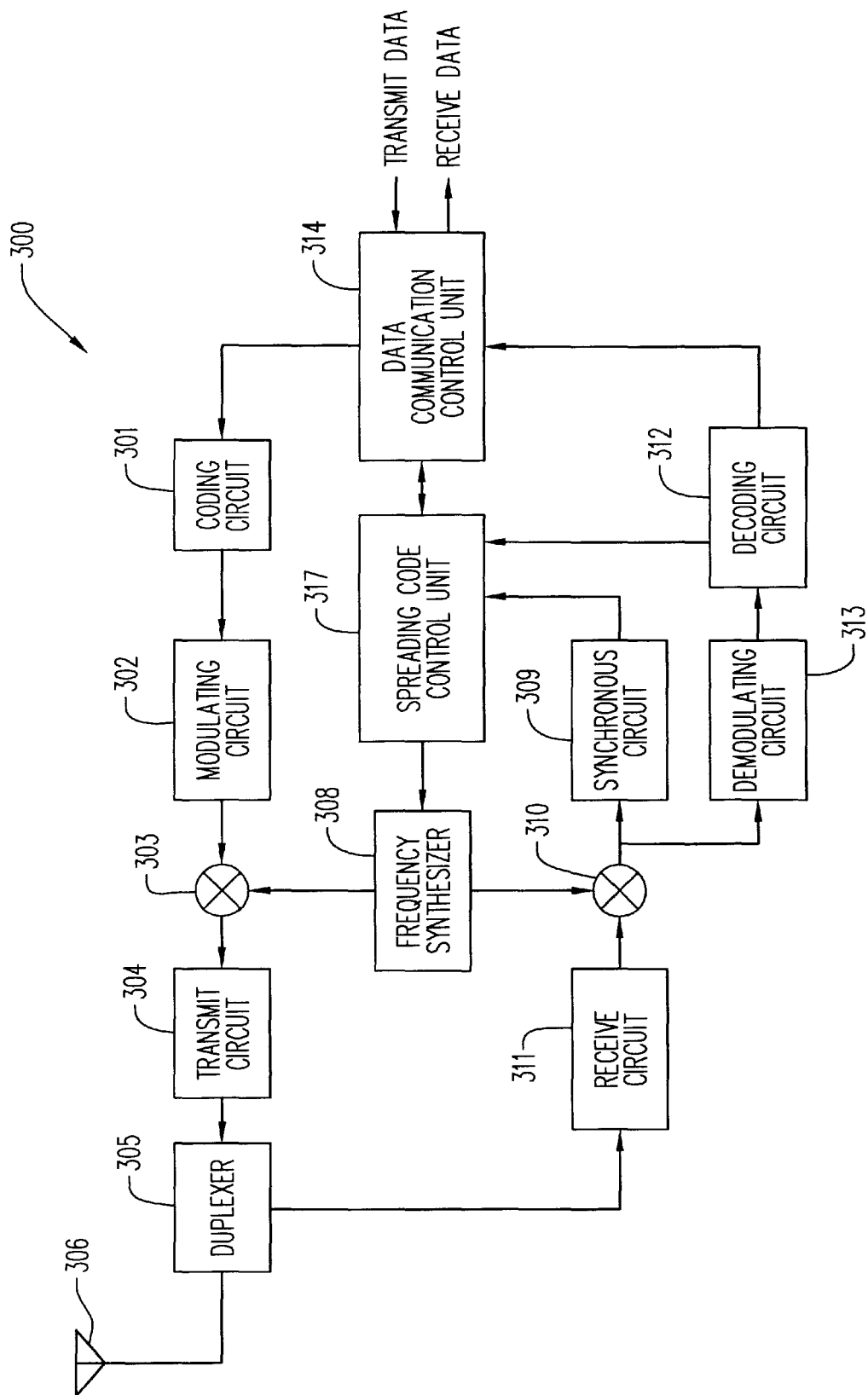


FIG. 3

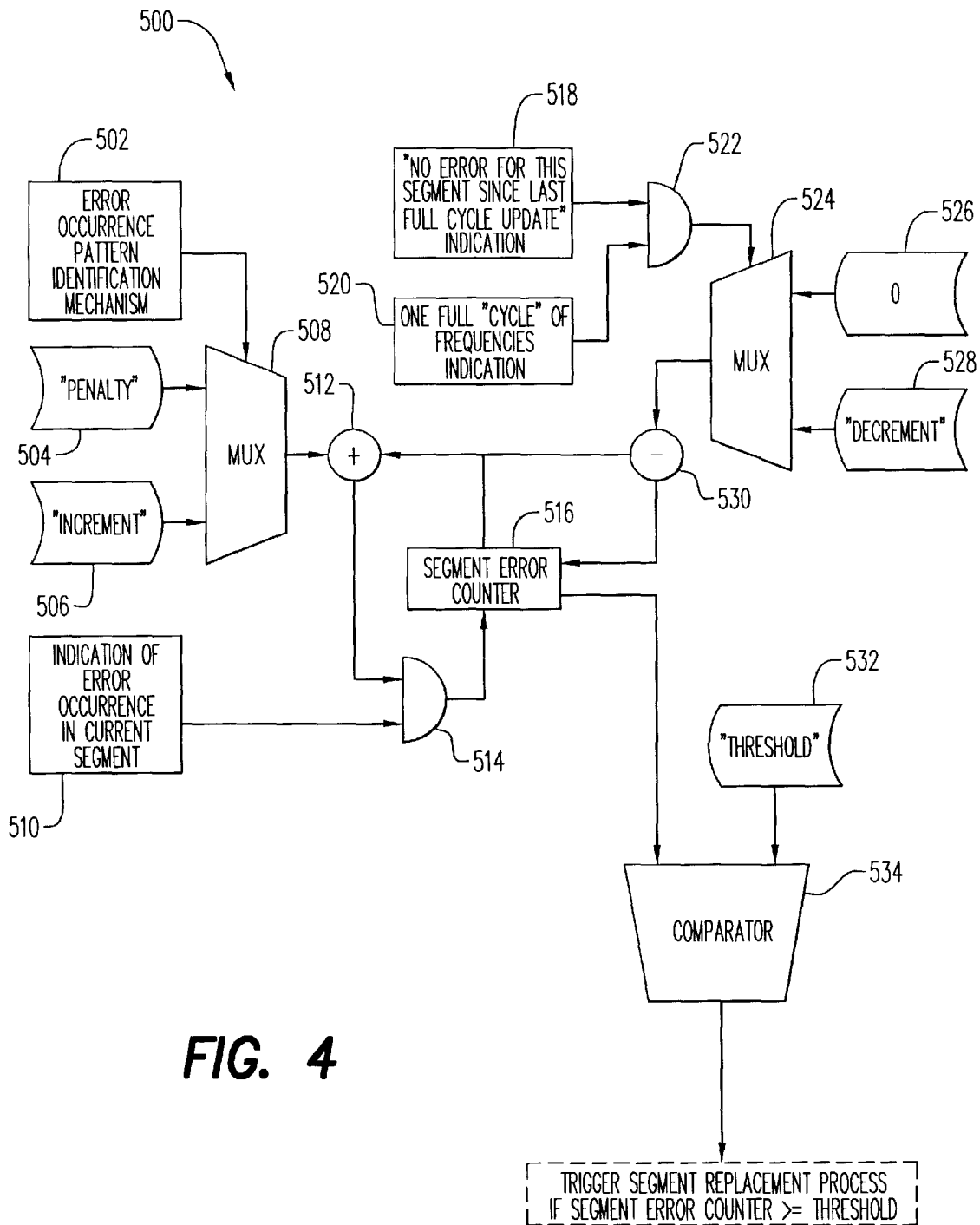


FIG. 4

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