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(54) **Title:** TOPOLOGY AND PHASE DETECTION FOR ELECTRICAL SUPPLY NETWORK

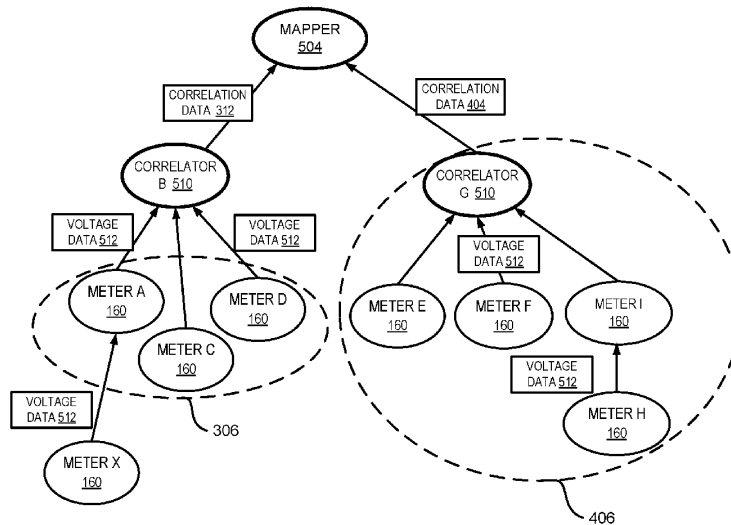


FIG. 5A

(57) **Abstract:** A system for detecting the topology and phase information of an electrical power distribution system is provided. For example, the system includes a group of meters connected to an electrical power distribution system and can communicate with each other through local network connections such as a mesh network. Each of the meters is configured to generate and transmit voltage data to a correlator of the group of meters. The correlator calculates the correlations between each pair of meters in the group based on the voltage data received and further transmits the calculated correlations to a mapper through the mesh network. The mapper determines the topological or phase relationship between at least the group of meters based on the received correlations.

[Continued on next page]

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