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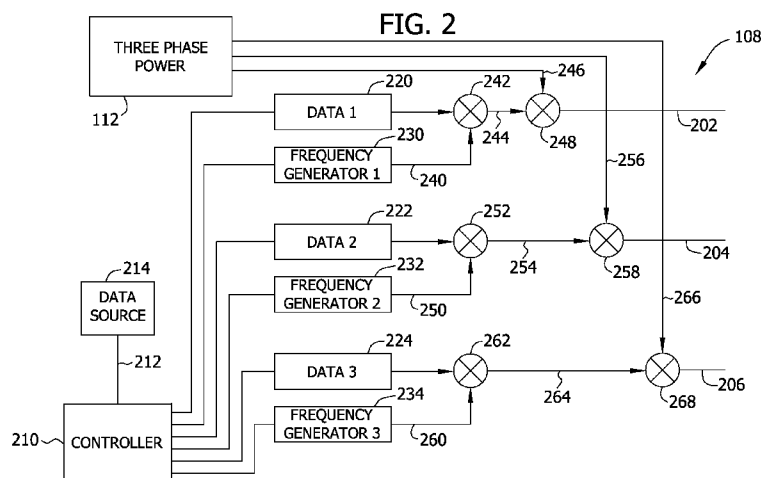
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(54) Title: METHODS AND SYSTEM FOR INCREASING DATA TRANSMISSION RATES ACROSS A THREE-PHASE POWER SYSTEM



(57) Abstract: A method and system for providing information by optimizing the data rate to a vehicle over a three-phase power line utilized to provide power to the vehicle is described. The method includes generating carrier signals in three separate frequency bands, modulating various data onto the three carrier signals to generate three transmission signals, switching the three transmission signals onto respective conductors of the three-phase power line, demodulating the various data within the vehicle, and providing the various data to one or more vehicle systems. The three transmission signals are dynamically monitored such that the three frequency bands are controlled to optimize a data rate of the transmission.