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ABSTRACTMixed Mode Transceiver Digital Control Network
and Collision-Free Communication Method

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A mixed mode transceiver digital control network system is disclosed as including at least two nodes/transceivers connected with a DC power source and a cored inductor *via* a bus, in which each transceiver includes a current mode transmitter and a voltage mode receiver. A bi-directional voltage clamp is connected in parallel to the cored inductor. Electric current from the DC power source flows through the cored inductor and the bi-directional clamp into the bus. By reason of the flow of the electric current through the voltage clamp, a electric voltage pulse is generated and transmitted into the bus. The electric voltage pulse so transmitted into the bus is received by the voltage mode receiver and subsequently inputted into a micro-controller or processor of the node. There is also disclosed a method of setting one of a plurality of priority levels to each node forming the system, so that a node to which a higher priority level has a higher chance of transmitting its data packets. There is further disclosed a method of avoiding collision when two or more nodes/transceivers transmit their respective data packets at the same time.

[Fig. 5]