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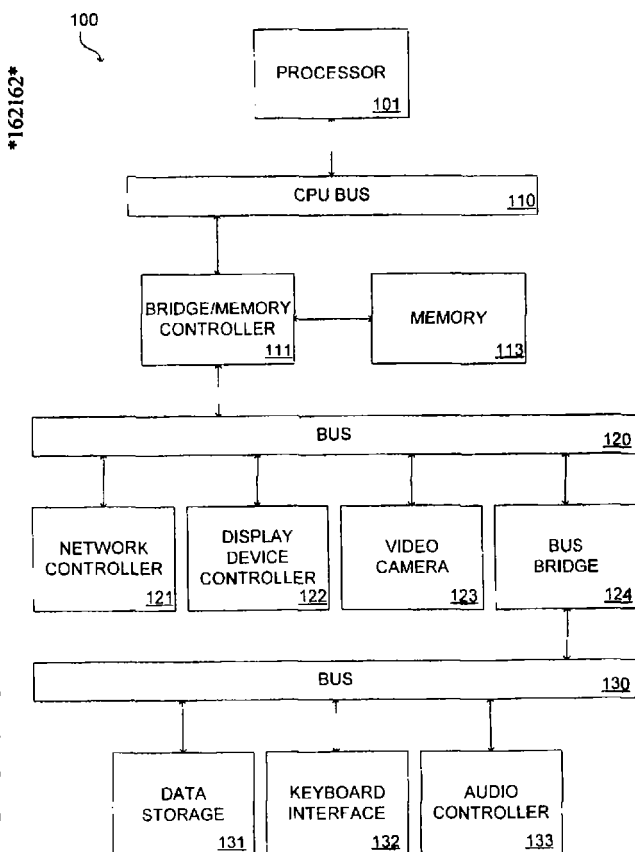
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(54) Title: APPARATUS FOR IMPLEMENTING A BUFFERED DAISY-CHAIN CONNECTION BETWEEN A MEMORY CONTROLLER AND MEMORY MODULES



(57) Abstract: A plurality of memory modules interface through a daisy-chain providing a point-to-point connection for each memory module. The first and the last memory module in the daisy chain each connect to a separate memory controller port forming a ring circuit. A distinct set of signals connect the memory modules in each direction. A junction circuit in each memory module provides line isolation, a coupling to the adjoining memory modules in the daisy chain or in the case of the first and last memory module in the daisy chain, a memory module and a memory controller, and a data synchronization circuit. Each junction circuit provides as well as voltage conversion so that the memory devices on a memory module operate at a different voltage than the memory controller, and multiplexing/de-multiplexing so that a lesser number of lines interface with each junction circuit.



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