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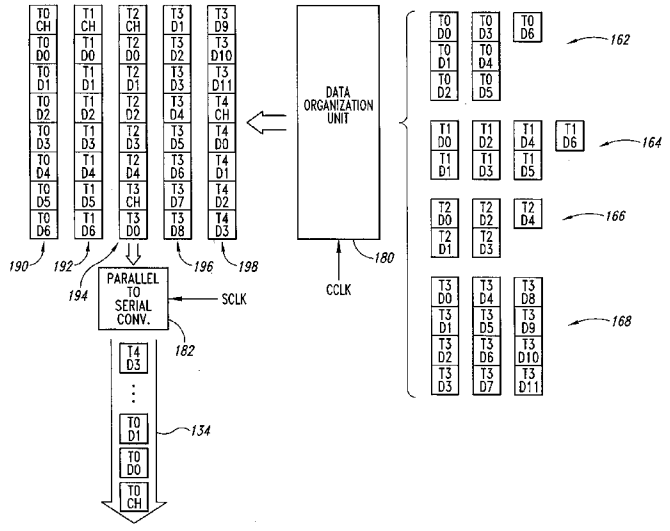
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(54) Title: SYSTEM AND METHOD FOR ORGANIZING DATA TRANSFERS WITH MEMORY HUB MEMORY MODULES



(57) Abstract: A memory system includes a memory hub controller coupled to a plurality of memory modules each of which includes a memory hub. The memory hubs each include a transmit interface having a data organization system that organizes a command header and data for each of a plurality of memory transactions into lane groups each of which contain a predetermined number of lanes. Each of the lanes contains either parallel command header bits or parallel data bits. The lane groups are then converted to a serial stream of lanes and transmitted from the memory hubs through a high-speed bus. The lane groups are organized so that they are always filled with lanes containing either a command header or data. As a result, the high-speed bus is never idle during transmission of memory transactions from the memory hub thereby maximizing the memory bandwidth of the memory system.

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