

[54] APPARATUS AND METHOD FOR BURST DATA TRANSFER EMPLOYING A PAUSE AT FIXED DATA INTERVALS

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[57] ABSTRACT

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A plurality of devices attached to a communications bus observe a burst transfer protocol which allows pausing only at pre-determined, fixed intervals of n data words, where a word is the width of the bus. In accordance with this protocol, once burst transfer is initialized the sending device transmits an uninterrupted stream of n data words over the communications bus, after which either the sender or receiver may cause transmission to pause. The sender may need to wait for more data, or the receiver may need to finish processing the data just received. The pause lasts as long as needed until both devices are ready to proceed. This cycle is repeated until the data transmission is complete. The sending and receiving devices do not relinquish control of the bus during a pause, and therefore are not required to re-initialize communications. In the preferred embodiment, after n data words have been transmitted, the sender and receiver toggle interlocking signals that accomplish a handshaking between the two devices. The sender de-activates its signal when it is ready to send more, and the receiver de-activates its signal when it is ready to receive more. Both devices are equipped with buffers large enough to hold n data words, but the buffers need not be as large as the longest possible burst communication.

Related U.S. Application Data

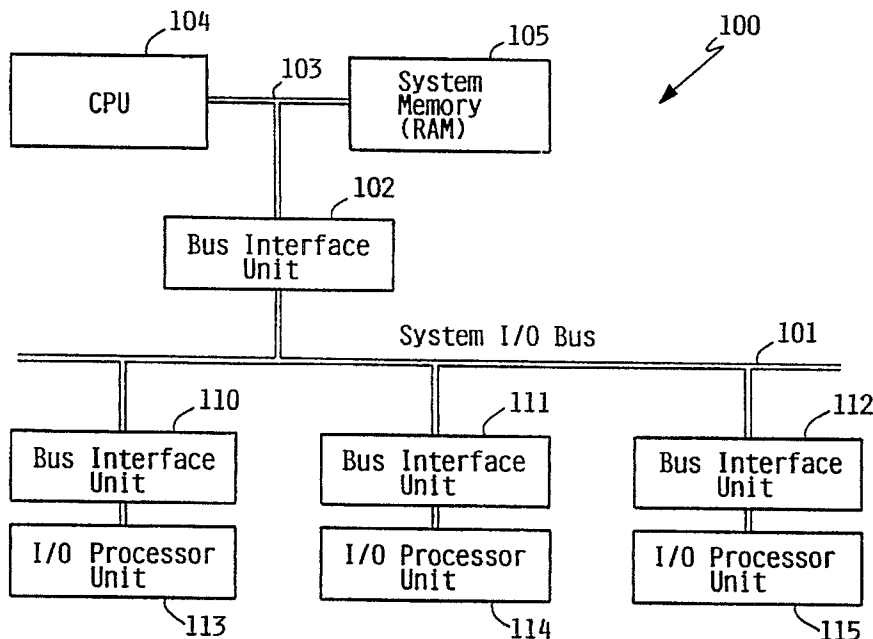
[63] Continuation of Ser. No. 760,426, Sep. 16, 1991, abandoned.  
[51] Int. Cl.<sup>6</sup> ..... G06F 13/28  
[52] U.S. Cl. .... 395/800; 364/260; 364/271.5; 364/260.1; 364/DIG. 1; 395/868  
[58] Field of Search ..... 395/800, 868

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30 Claims, 5 Drawing Sheets



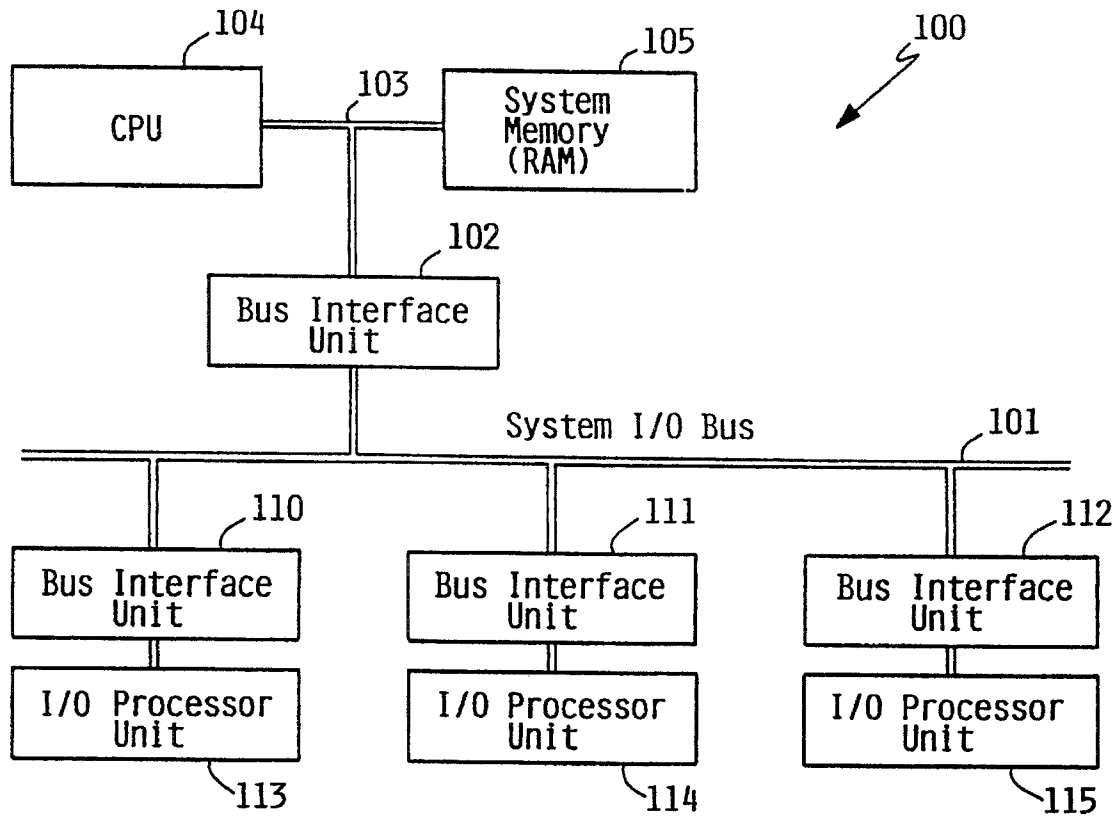


FIG. 1

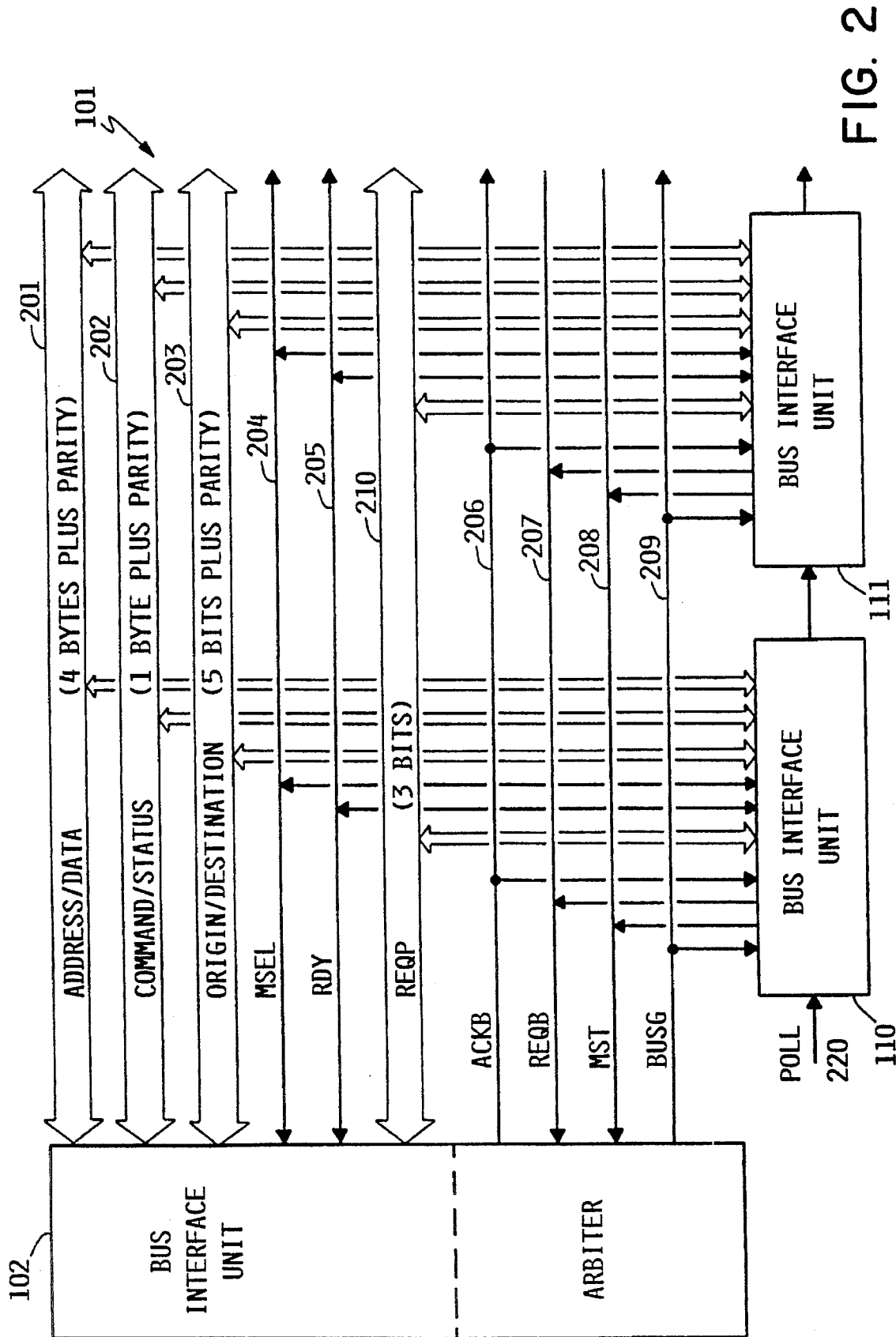


FIG. 2

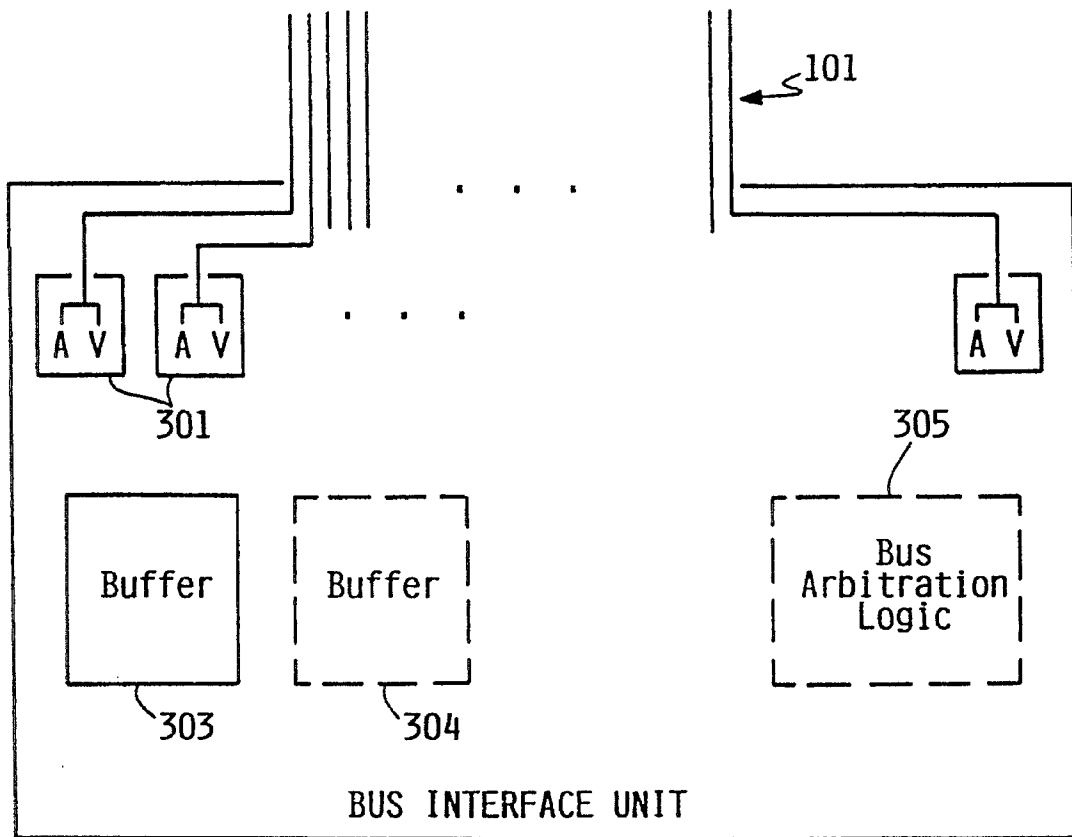


FIG. 3

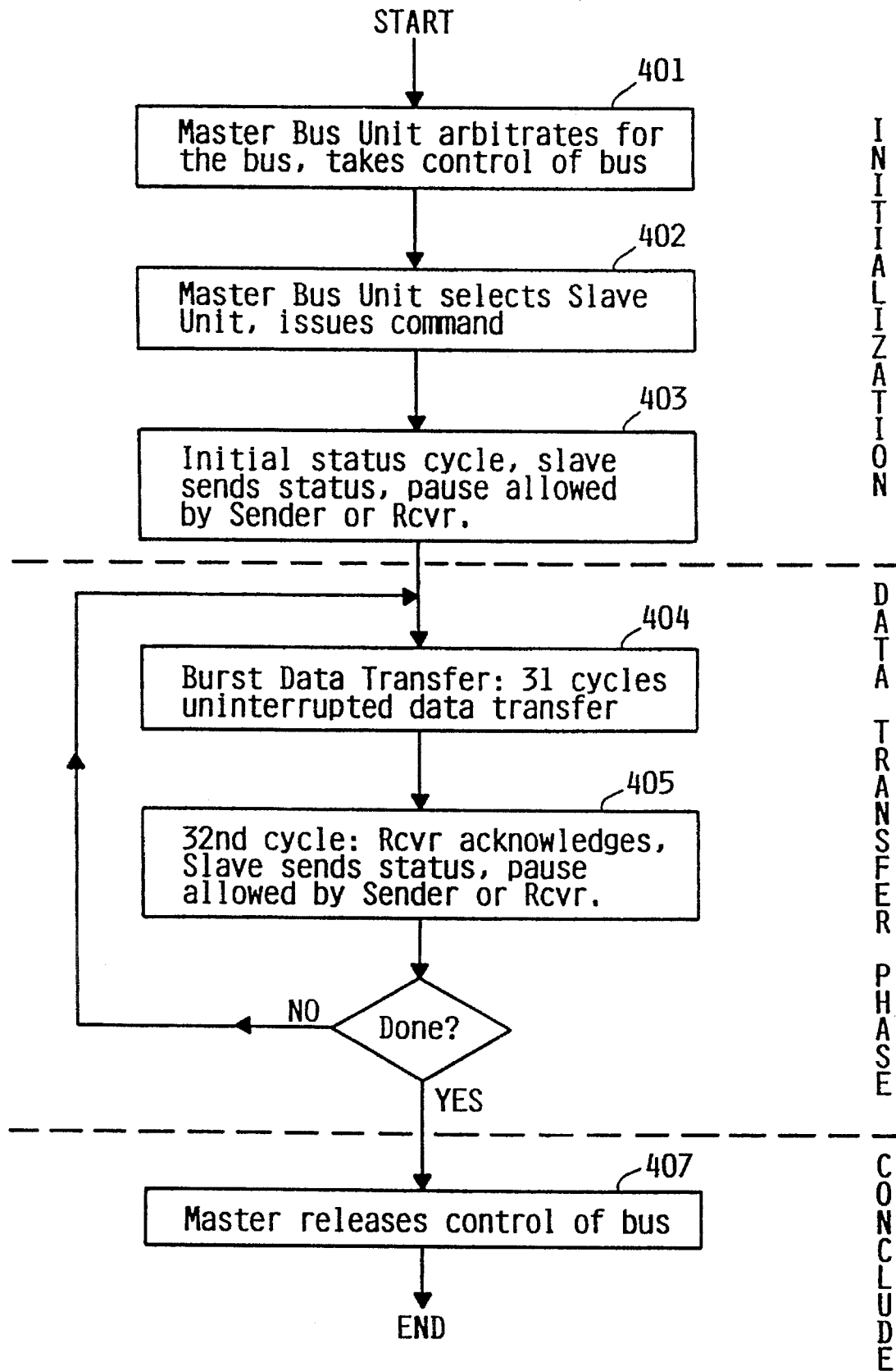


FIG. 4

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