

# United States Patent [19]

## Lambrecht

[11] Patent Number: 5,682,484

[45] Date of Patent: Oct. 28, 1997

### [54] SYSTEM AND METHOD FOR TRANSFERRING DATA STREAMS SIMULTANEOUSLY ON MULTIPLE BUSES IN A COMPUTER SYSTEM

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[21] Appl. No.: 559,664

[22] Filed: Nov. 20, 1995

[51] Int. Cl.<sup>6</sup> ..... G06F 13/00[52] U.S. Cl. .... 395/308; 395/306; 395/841;  
395/281; 395/154[58] Field of Search ..... 395/306, 308,  
395/847, 841, 855, 858, 309, 281, 822,  
840, 162, 163, 200.09, 154, 200.04, 200.12;  
370/85.13, 85.9, 85.11; 364/514; 463/43

## [56] References Cited

## U.S. PATENT DOCUMENTS

4,245,344	1/1981	Richter .....	371/68.1
4,991,169	2/1991	Davis et al. .	
5,072,442	12/1991	Todd .....	370/265
5,208,745	5/1993	Quentin et al. .	
5,245,322	9/1993	Dinwiddie, Jr. et al. .	
5,274,763	12/1993	Banks .	
5,274,784	12/1993	Arimilli et al. ....	395/306
5,325,423	6/1994	Lewis .	
5,345,566	9/1994	Tanji et al. ....	395/308
5,404,463	4/1995	McGarvey .....	395/308
5,404,465	4/1995	Novakovich et al. ....	395/308
5,450,551	9/1995	Amini et al. .	
5,487,167	1/1996	Dinallo et al. .	

5,502,824	3/1996	Heil .....	395/293
5,519,839	5/1996	Culley et al. .	
5,526,017	6/1996	Wilkie .....	345/115
5,530,902	6/1996	McRoberts et al. .	
5,533,205	7/1996	Blackledge, Jr. et al. .	
5,557,757	9/1996	Gephardt et al. .	
5,564,001	10/1996	Lewis .	

## OTHER PUBLICATIONS

PCI Local Bus —*PCI Multimedia Design Guide*—Revision  
1.0 —Mar. 29, 1994, 43 pages.

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Hood

## [57] ABSTRACT

A computer system optimized for real-time applications which provides increased performance over current computer architectures. The system includes a standard local system bus, such as the PCI bus, and also includes a dedicated real-time bus or multimedia bus. Thus multimedia devices such as video cards, audio cards, etc., as well as communications devices, transfer real-time data through a separate bus without requiring arbitration for the PCI bus. The computer system of the present invention thus provides much greater performance for real-time applications than prior systems. In various embodiments, multimedia devices transmit addressing and control information for a multimedia bus transfer either over the PCI bus or using a separate serial control channel. The multimedia bus may also comprise separate multimedia channels for different data types. Methods are also disclosed for transferring periodic multimedia data over the multimedia bus.

8 Claims, 25 Drawing Sheets

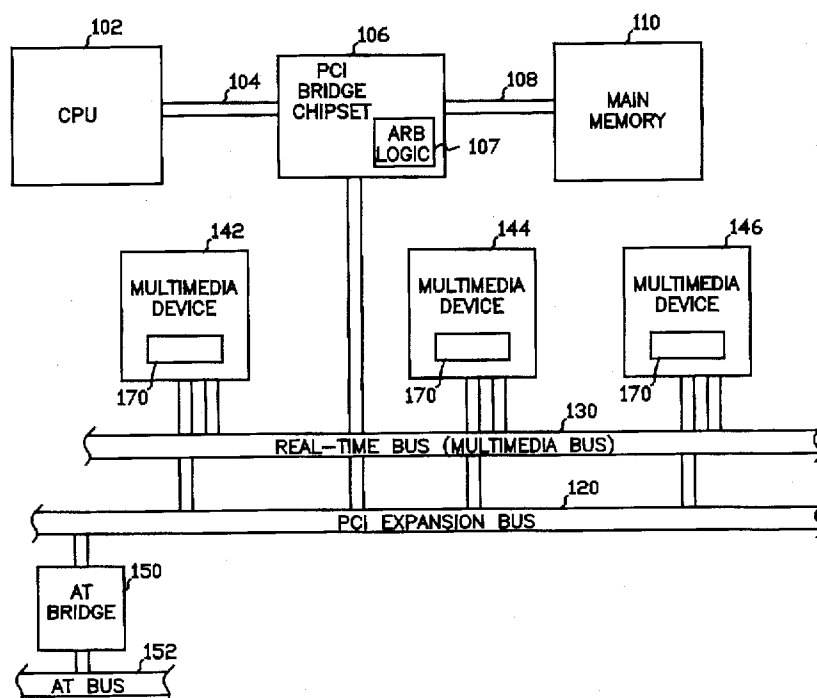
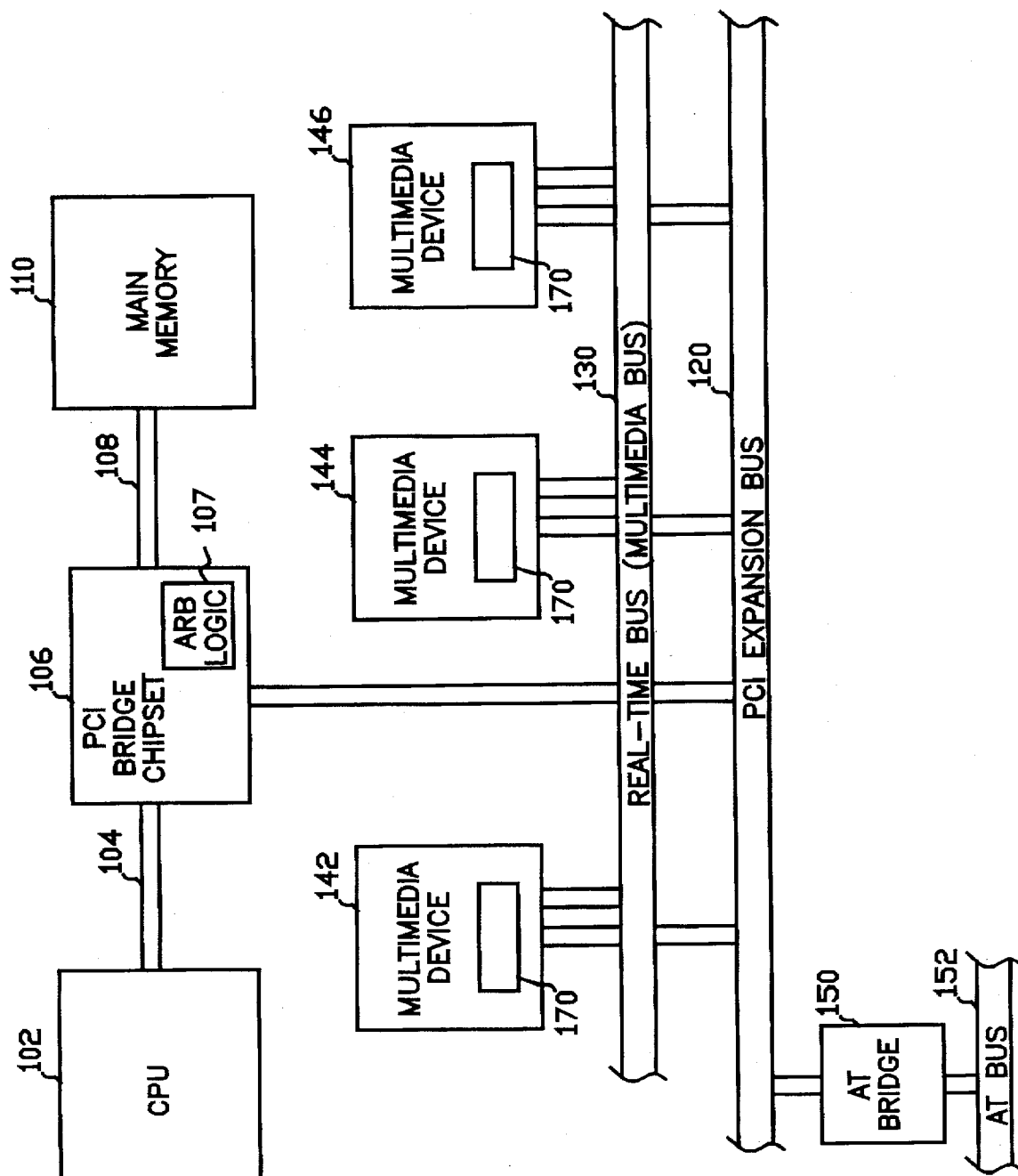


FIG. 1



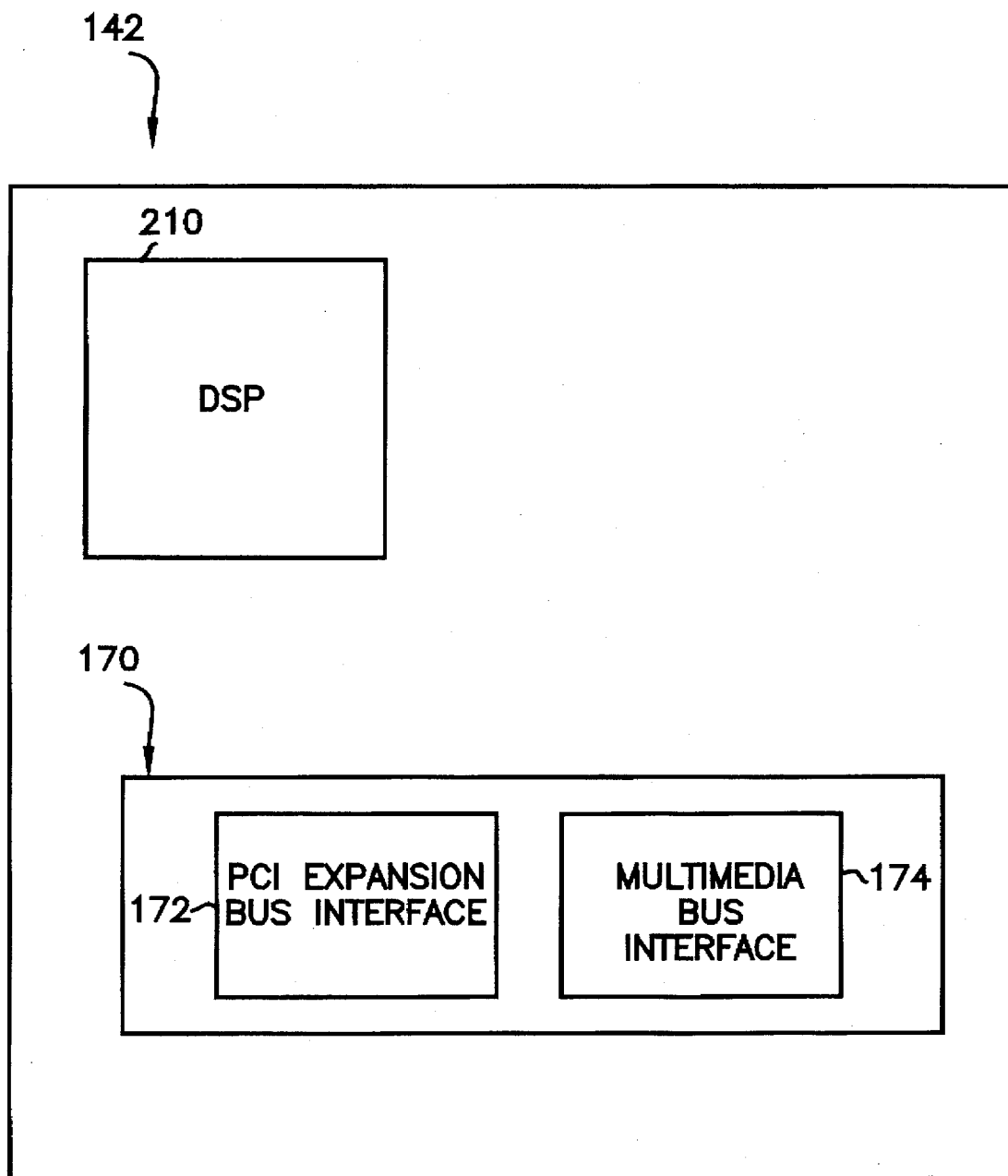


FIG. 2

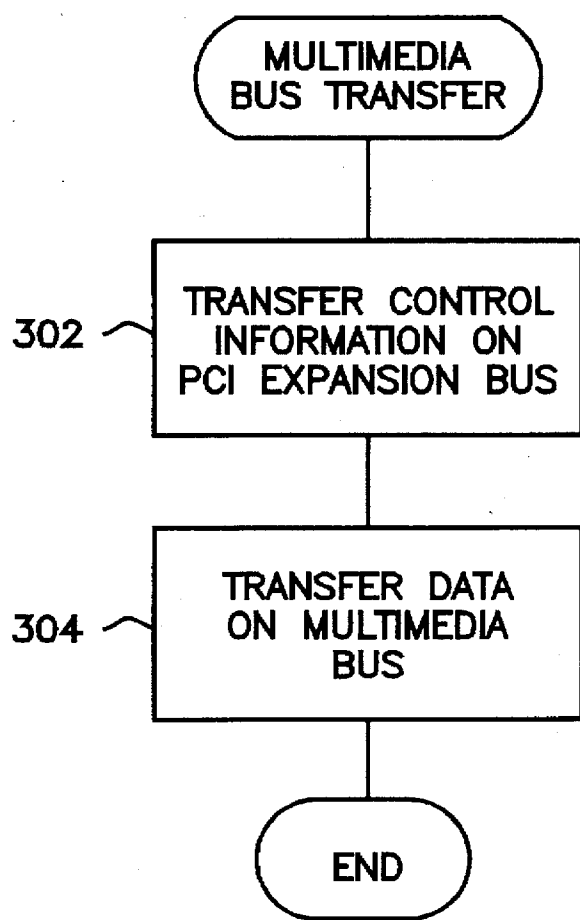


FIG. 3A

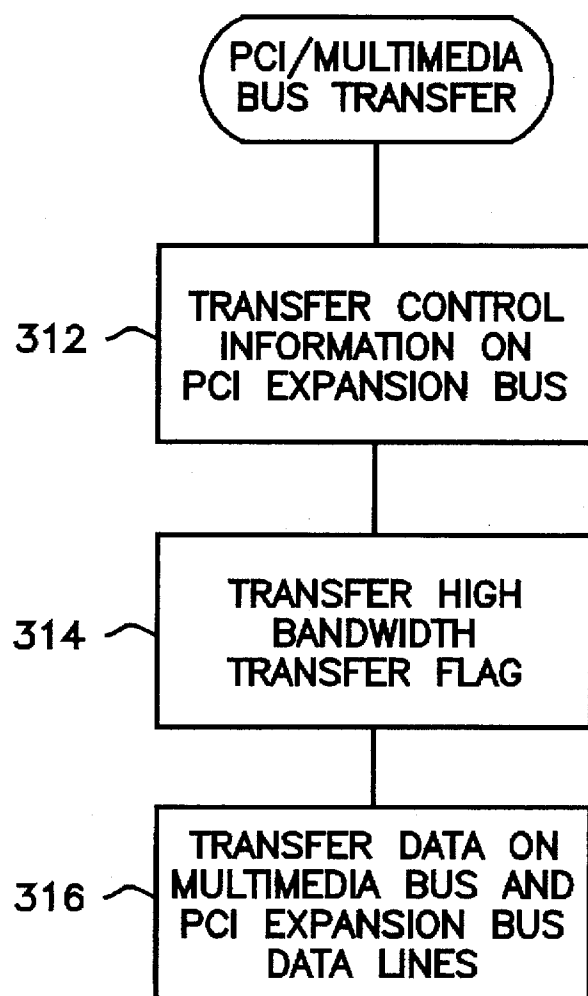


FIG. 3B

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