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# United States Patent [19]

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Lambrecht

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

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[75] Inventor: **Andy Lambrecht, Austin, Tex.**

[73] Assignee: **Advanced Micro Devices, Inc., Sunnyvale, Calif.**

[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**

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*Primary Examiner*—Jack B. Harvey

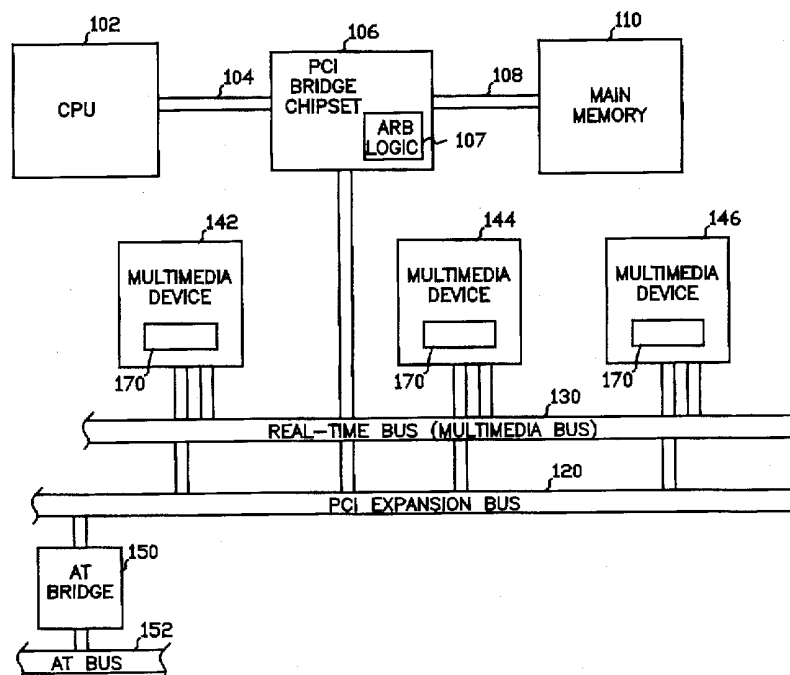
*Assistant Examiner*—Ario Etienne

*Attorney, Agent, or Firm*—Conley, Rose & Tayon; Jeffrey C. 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**



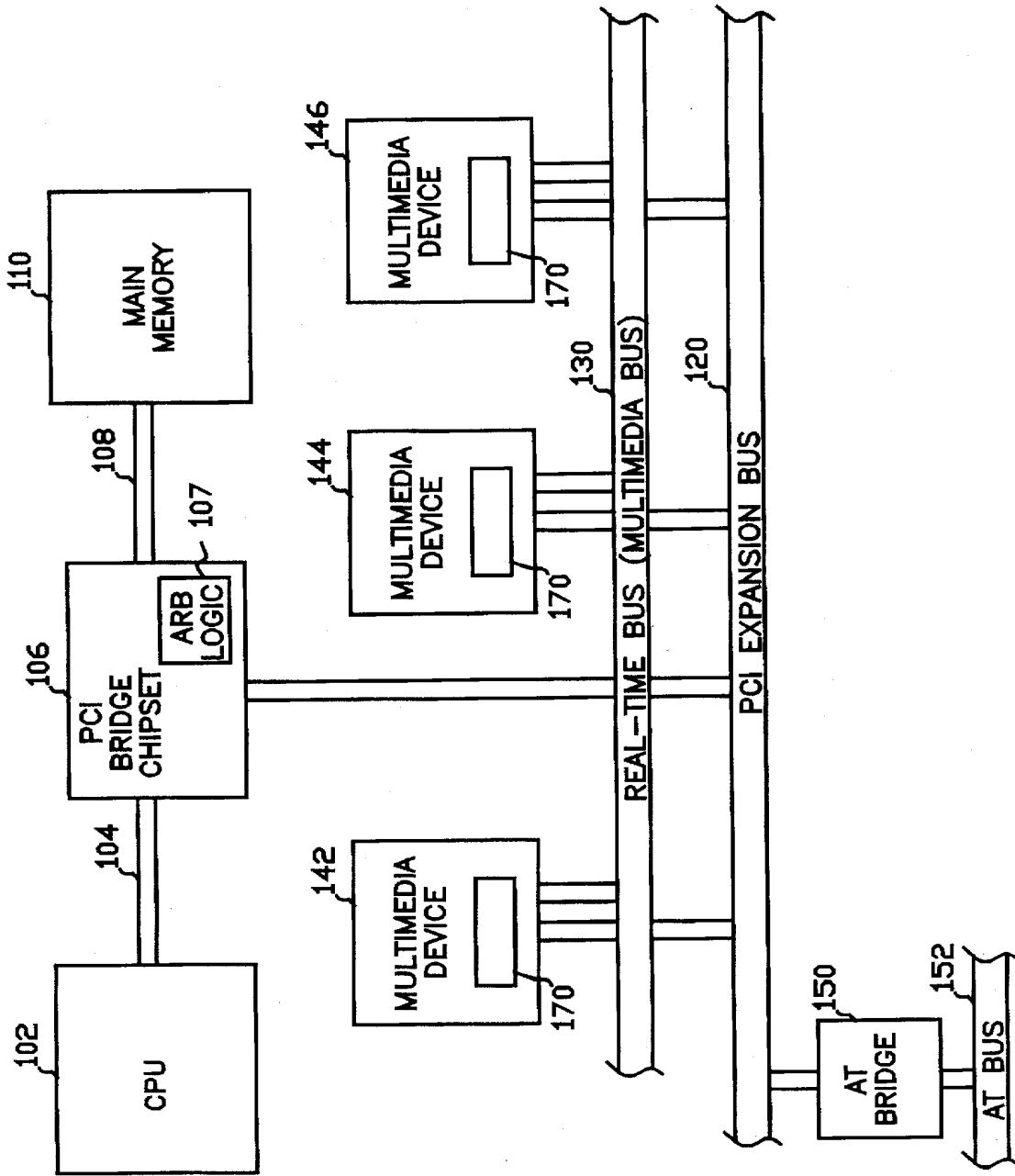


FIG. 1

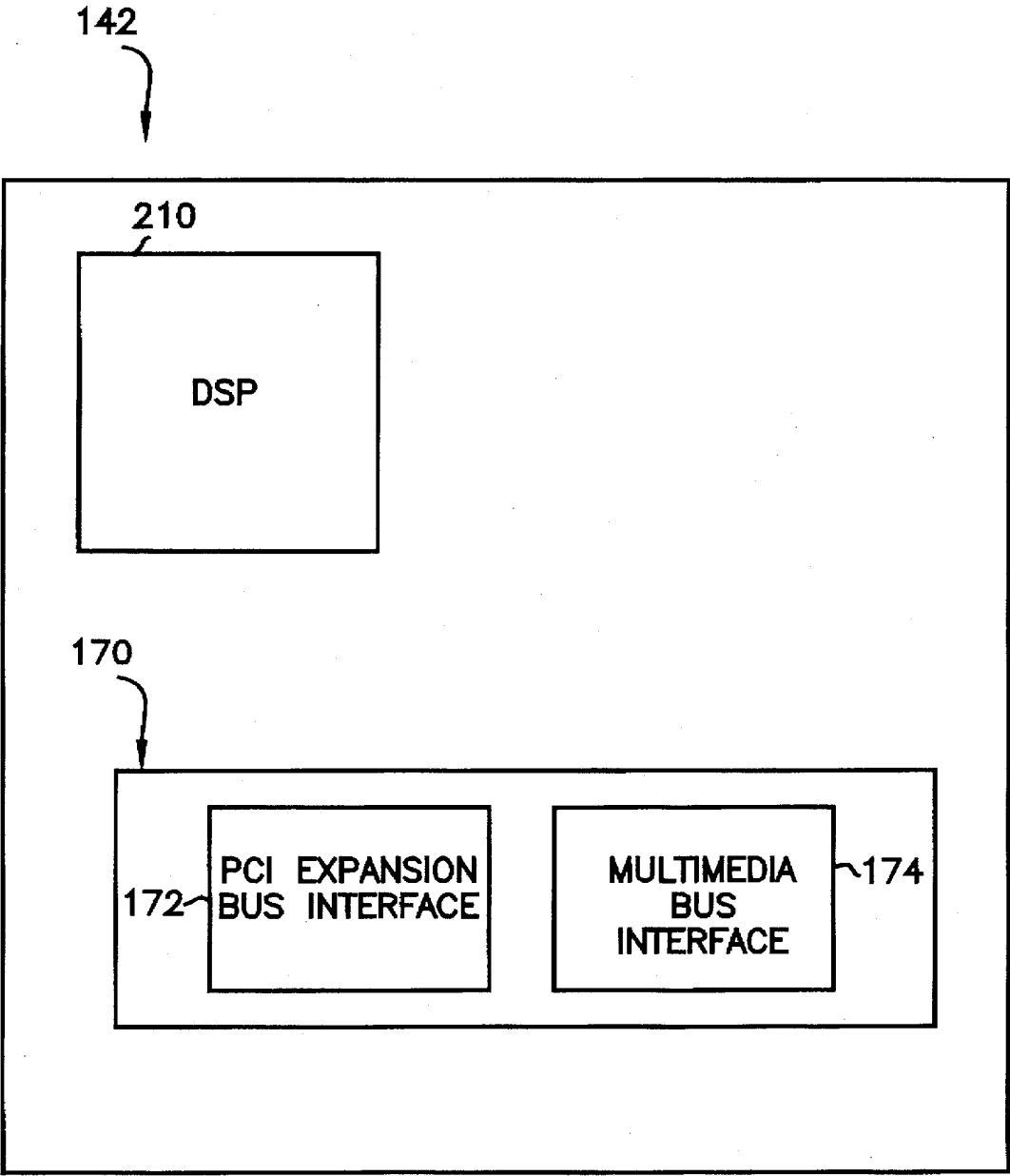


FIG. 2

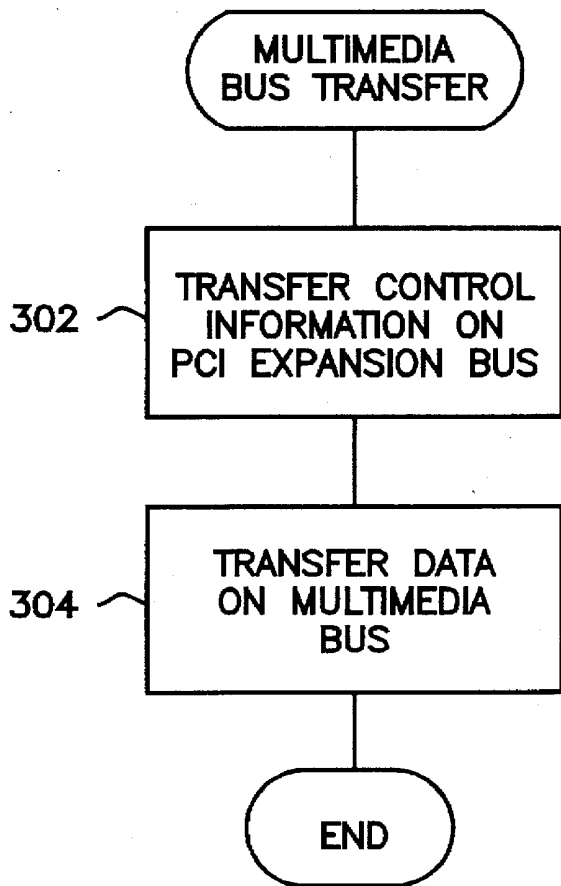


FIG. 3A

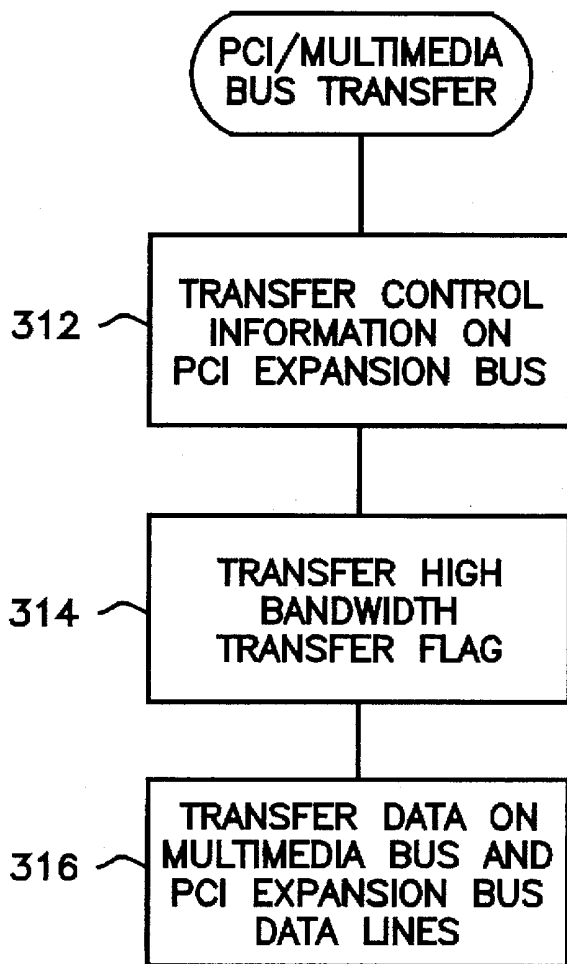


FIG. 3B

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