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United States Patent [19]

Gephardt et al.

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[54] **SYSTEM FOR DOCKING A PORTABLE COMPUTER TO A HOST COMPUTER WITHOUT SUSPENDING PROCESSOR OPERATION BY A DOCKING AGENT DRIVING THE BUS INACTIVE DURING DOCKING**

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[21] Appl. No.: **255,663**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 217,951, Mar. 25, 1994, abandoned.

[51] **Int. Cl.**⁶ **G06F 13/14**; G06F 13/20; G06F 13/36; G06F 13/40

[52] **U.S. Cl.** **395/283**; 395/281; 395/287; 395/288; 364/231.1; 364/240; 364/242.7

[58] **Field of Search** 395/750, 700, 395/283, 281, 287, 288; 364/231.1, 240, 242.7

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,530,069	7/1985	Desrochers	395/822
4,769,764	9/1988	Levanon	361/680
4,969,830	11/1990	Daly et al.	439/136
4,999,787	3/1991	McNally et al.	364/514
5,030,128	7/1991	Herron et al.	439/372
5,052,943	10/1991	Davis	439/357
5,126,954	6/1992	Morita	361/683
5,175,671	12/1992	Sasaki	361/686
5,187,645	2/1993	Spalding et al.	361/686
5,195,183	3/1993	Miller et al.	395/200.2
5,210,855	5/1993	Bartol	395/500
5,241,542	8/1993	Natarajan et al.	370/311
5,265,238	11/1993	Canova, Jr. et al.	395/651
5,313,596	5/1994	Swindler et al.	395/325
5,317,697	5/1994	Husak et al.	395/325
5,323,291	6/1994	Boyle et al.	361/683
5,353,417	10/1994	Fuoco et al.	395/325
5,386,567	1/1995	Lien et al.	395/700
5,394,552	2/1995	Shirota	395/750
5,488,572	1/1996	Belmont	364/514 R
5,526,493	6/1996	Shu	395/281
5,530,810	6/1996	Bowman	395/281

FOREIGN PATENT DOCUMENTS

0426134A2	5/1991	European Pat. Off. .
0426134A3	5/1991	European Pat. Off. .
0637793A1	2/1995	European Pat. Off. .
WO94/09425	4/1994	WIPO .

OTHER PUBLICATIONS

HPSIR, Special Infrared Communications Specification, introduction pages and pp. 1–9.

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[57] **ABSTRACT**

A computer system includes a bus arbiter for providing immediate access to a bus in response to an external requirement or event. In a dockable computer system capable of hot docking or warm docking, the bus arbiter grants exclusive, non-preemptive access to the buses to the docking agent which is capable of quieting (rendering inactive) the bus of the portable computer a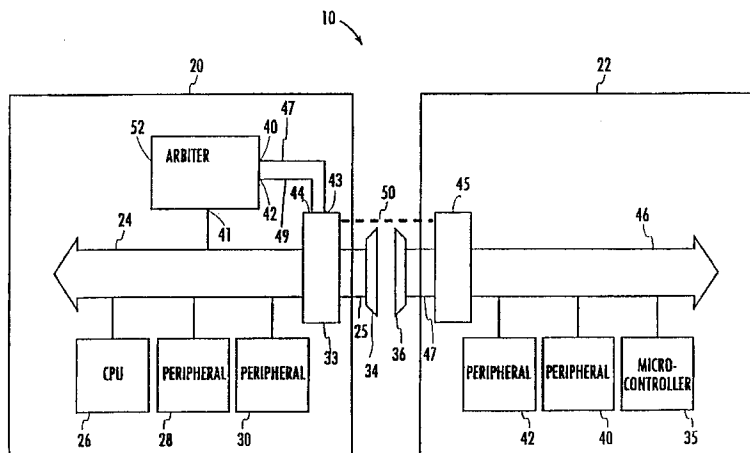nd docking station in response to a notice signal. The notice signal is indicative of a change of states from the undocked state to the docked state or from the docked state to the undocked state. The notice signal may be provided from software, a user-actuated switch, or an infrared signal. In an audio-capable computer, the bus arbiter provides exclusive non-preemptive access to the digital signal processing peripheral device so that audio glitches are avoided. The arbiter preferably includes an override circuit for countermanding the fairness scheme employed by the bus arbiter and granting immediate bus access in response to the external event or condition. The bus arbiter preferably is able to provide fixed or rotating priority for bus accesses of other peripheral devices on the bus. The arbiter is preferably integrated with the main processor of the computer system.

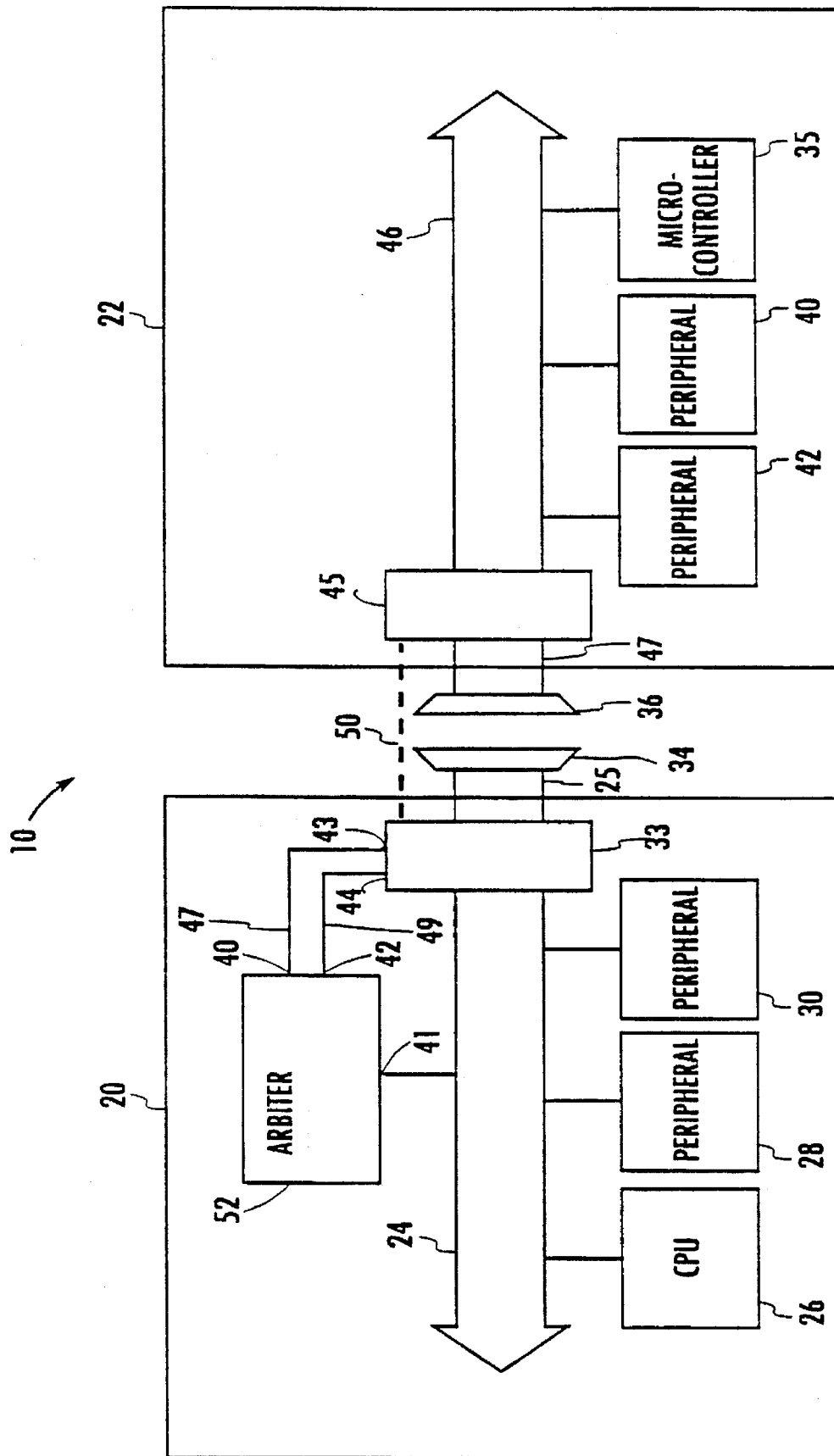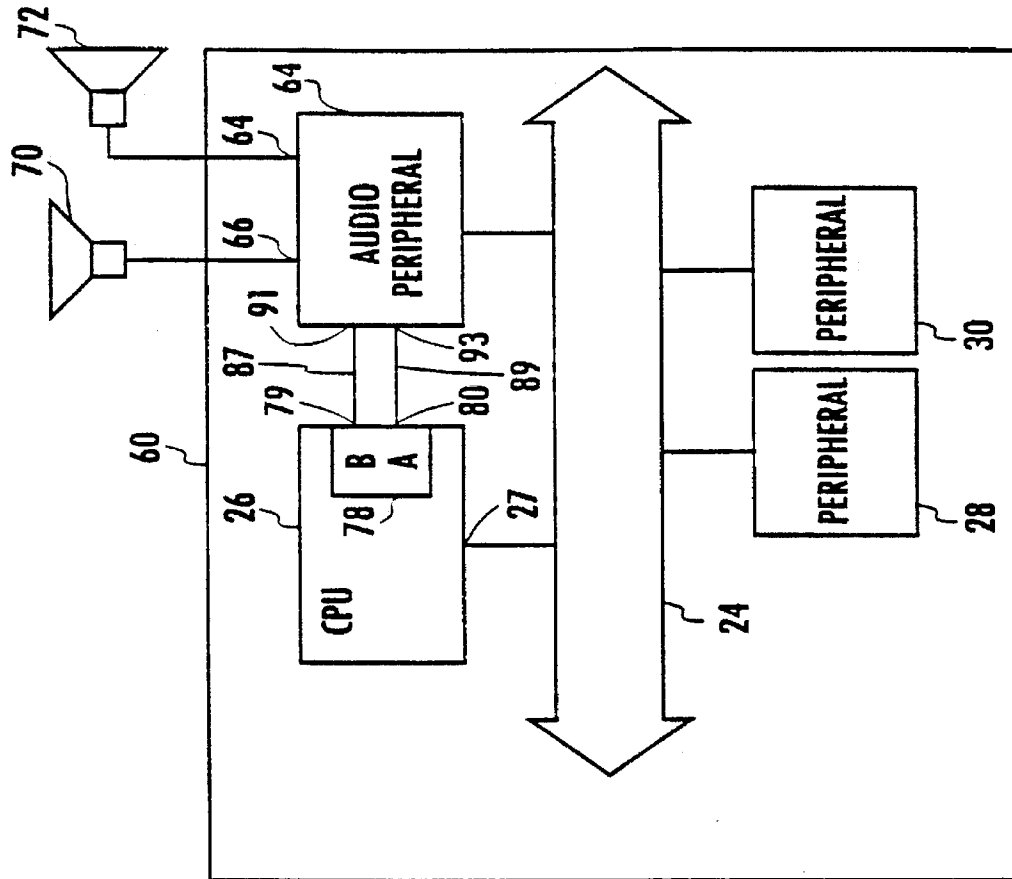**24 Claims, 6 Drawing Sheets**
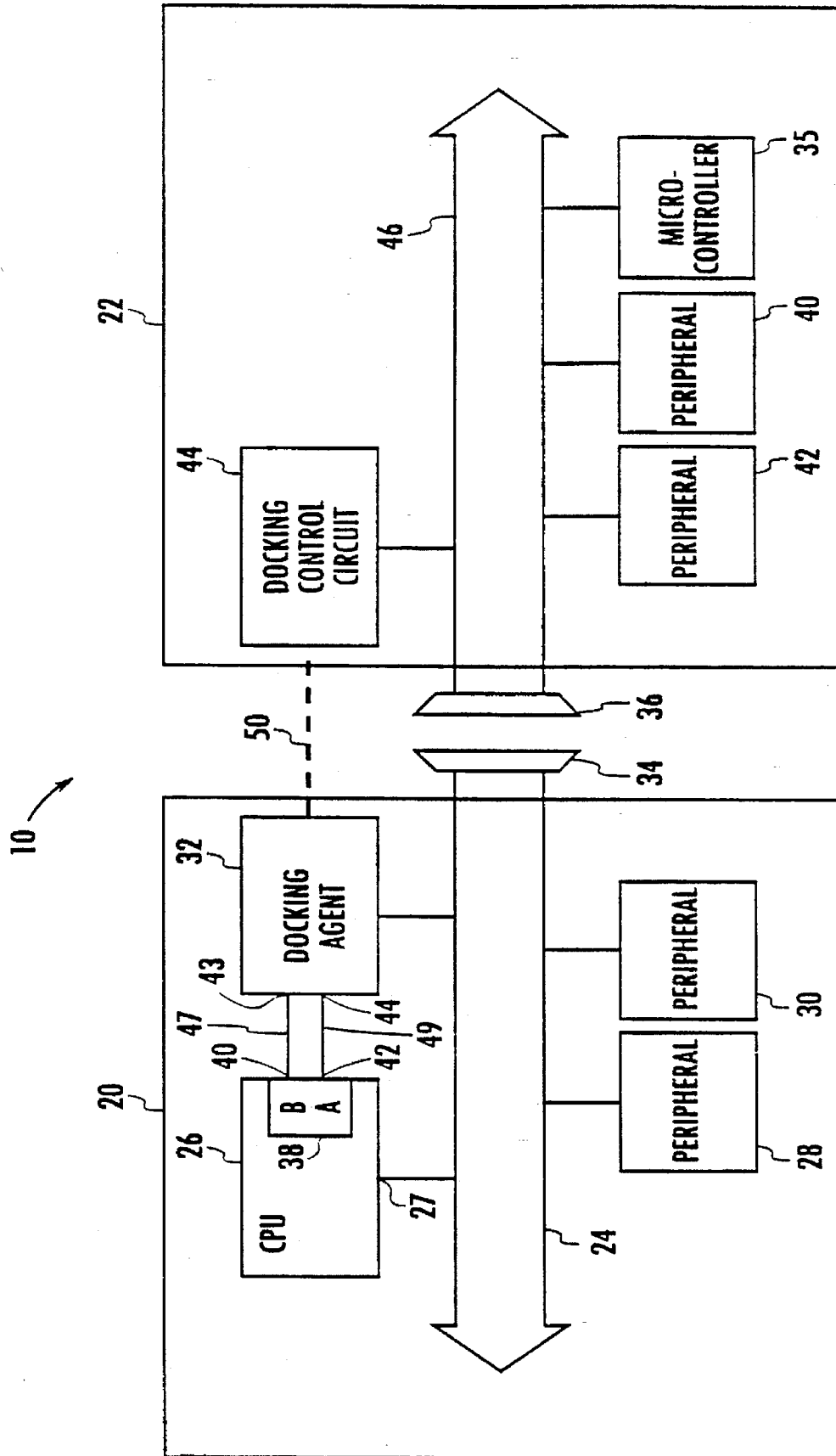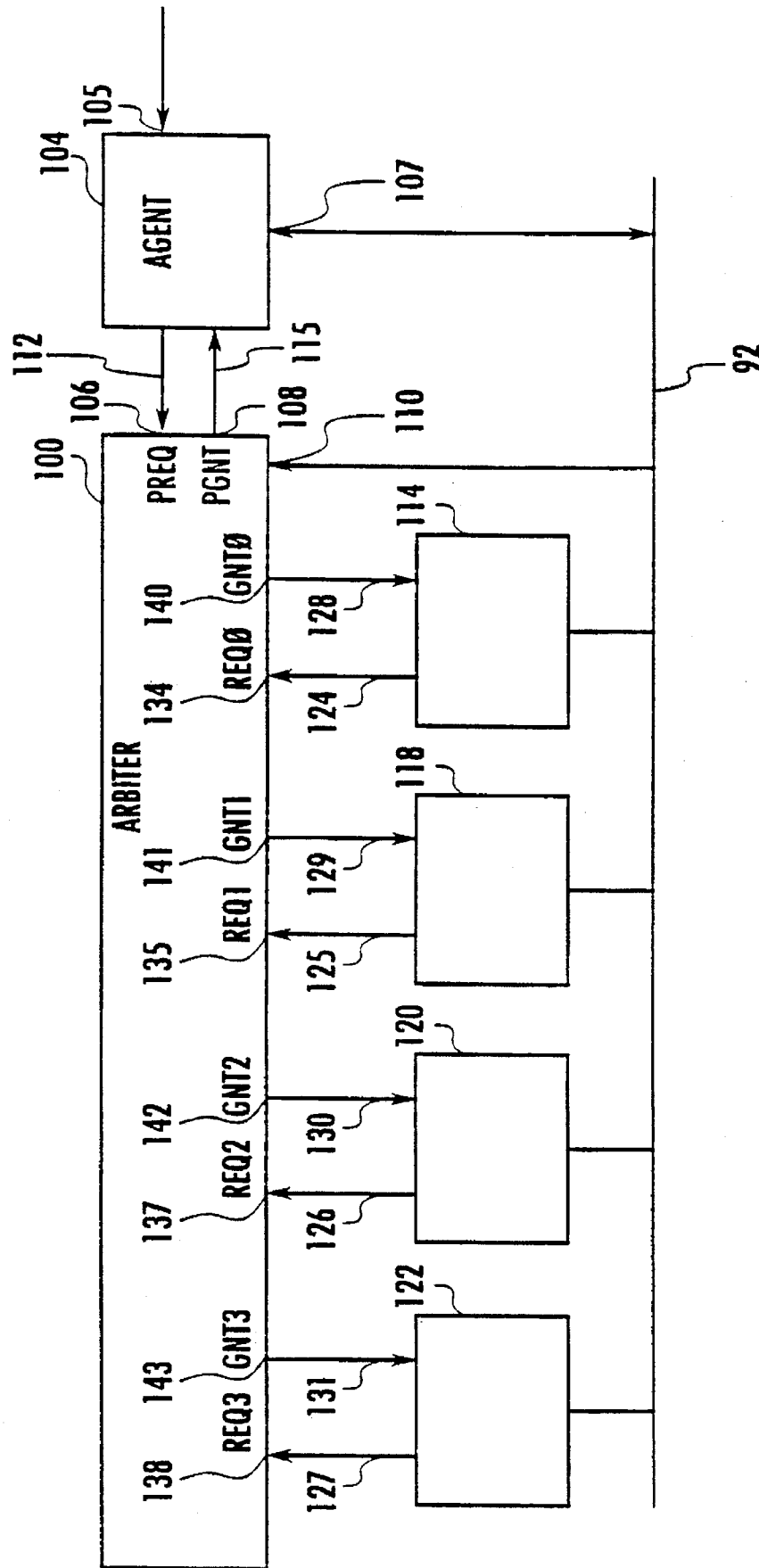
FIG. 1

FIG. 2

FIG. 3

FIG. 4

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