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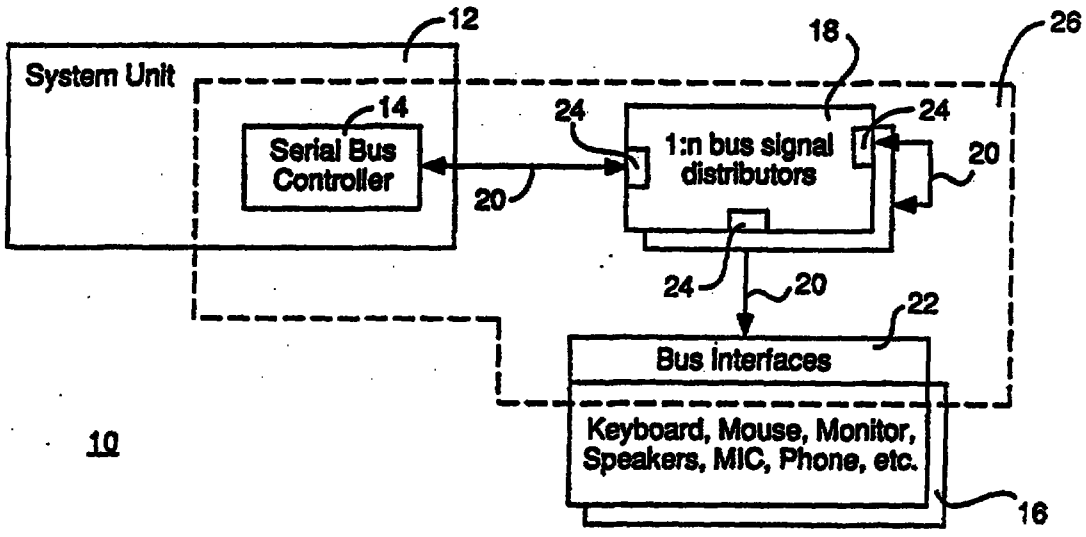
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(54) Title: M & A FOR DYNAMICALLY DETERMINING AND MANAGING CONNECTION TOPOLOGY OF A HIERARCHICAL SERIAL BUS ASSEMBLY



(57) Abstract

Circuitry and complementary logic are provided to a bus controller (14), a number of 1:n bus signal distributor (18), and a number of bus interfaces (22) of a hierarchical serial bus assembly for the bus controller to dynamically detect and manage the interconnection topology of the serial bus elements. The serial bus assembly is used to serially interface a number of isochronous and asynchronous peripherals to the system unit of a computer system. These circuitry and complementary logic support a hierarchical view of the serial bus elements (16), logically dividing the hierarchy into multiple tiers. This logical view of the serial bus elements is used by the bus controller to detect the presence of interconnected serial bus elements and the functions of the bus agents, i.e. the system unit and the interconnected peripheral, as well as assignment of addresses to the serial bus elements and the functions, at power on, reset, and during operation when serial bus elements are hot attached to or detached from the serial bus assembly.