

METHOD AND APPARATUS FOR PROVIDING A HOT DOCKING INTERFACE FOR TRANSMITTING DIGITAL VIDEO DATA

FIELD OF THE INVENTION

The present invention relates to the field of computer systems, and in particular, the interface or connection between computer systems and multimedia devices for transferring multimedia data.

BACKGROUND OF THE INVENTION

Presently to interconnect multimedia devices (e.g., compact disc (CD) players/recorders, digital video recorders, digital cameras, televisions, tape cassette players, stereos etc.) in order to transmit data between the devices, various cables are typically used. The use of cables to interconnect the multimedia devices, however, has various drawbacks.

For example, if several multimedia devices are interconnected, the various cables/wires interconnecting the devices can become entwined with each other. As a result, the entwining of the cables can make it difficult to connect and disconnect the multimedia devices from each other, and, possibly create a fire hazard if the protective outer layer of the cables become eroded or worn.

One solution to the use of cables for interconnecting the multimedia devices is the use of infrared light waves as a method of transmitting data/information between two electronic devices, in place of cables. However, the communication of data/information between the multimedia devices via infrared is unfortunately slow, and as a result, hinders the performance of the multimedia devices. In addition, while transferring the information, the infrared beam can be easily interrupted, especially during long durations of transferring the information, thereby causing a further slowdown in the transmission of the data.

As a result, there is a need for an interface/connection between multimedia devices that allows the multimedia devices to transmit data without the physical limitations or drawbacks of using cables, while also transmitting the data at a bandwidth that enhances the multimedia performance.

SUMMARY OF THE INVENTION

The present invention provides a hot docking interface for transmitting multimedia data. In one embodiment, a first hot docking interface is provided on a computer system and a second hot docking interface is provided on a multimedia device. When the hot docking interfaces are placed in contact with each other, multimedia data may automatically be transmitted between the computer system and the multimedia device.

The hot docking feature of the hot docking interfaces allows the multimedia device to be placed in contact with the computer system when the computer system is powered on, and to have the data automatically transferred thereafter. No cables or wires are necessary. Moreover, in one embodiment, the hot docking interface of the computer system will provide power to the hot docking interface of the multimedia device to allow the multimedia device to transfer the data.

Moreover, in one embodiment of the present invention, the hot-docking interfaces are configured to enhance the transmission of multimedia data (e.g., video data, graphics data, audio data). More specifically, the hot-docking interfaces include logic that implements data communication

protocol that is able to transmit data at a higher band width. For example in one embodiment, the logic of the hot-docking interfaces transmit the multimedia data in accordance with the IEEE 1394 standard, sometimes referred to as the FireWire™ communication protocol.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is illustrated by way of example and not limitation in the figures of the accompanying drawings, in which:

FIG. 1 illustrates a block diagram of a computer system and a cut-away view of a multimedia device both incorporating one embodiment of the present invention;

FIG. 2 illustrates a flow diagram describing the steps of providing a hot docking interface for transmitting multimedia data; and

FIG. 3 illustrates a cut-away view of a computer system and a multimedia device both incorporating one embodiment of the present invention.

DETAILED DESCRIPTION

A method and apparatus are described for providing a hot docking interface for transmitting multimedia data. In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, to one of ordinary skill in the art, that the present invention may be practiced without these specific details. In other instances, well-known standards, structures, and techniques have not been shown in order not to unnecessarily obscure the present invention.

FIG. 1 illustrates a block diagram of one embodiment of the present invention, wherein a computer system **100** is shown having a hot docking interface/connection **102**, which allows the computer system to transmit/receive data with a separate multimedia device **104**, which is also shown to have a hot-docking interface **106**. The interfaces are considered to be "hot-docking" because contact can be made between the interfaces when the computer system is powered on and the multimedia device is optionally not powered on, and in response to the contact, the data is "automatically" transmitted between the computer system **100** and the multimedia device **104**.

For example, the camera **104**, as shown in FIG. 1, can simply be placed on top of the computer system **100** so that the hot docking interface **106** of the camera is in contact with the hot docking interface **102** of computer system **100**. Thereafter, the data can be exchanged without the need to connect the camera **104** and the computer system **100** via cables or wires.

In one embodiment, the multimedia device **104** does not use its own power source to transmit the data to the computer system. Instead, the multimedia device **104** may use power provided from the computer system **100** (or alternatively another multimedia device) to communicate the data. As a result, the power source of the multimedia device **104** is not drained when transmitting data to the computer system **100**.

In one embodiment of the present invention, the hot docking interface **102** includes a set of pins (e.g., pressure pins) arranged to make contact with a corresponding set of pads on a separate multimedia device. Once the pins of the hot docking interface **102** are in contact with the pads of the multimedia device, data can be exchanged between the computer system **100** and the multimedia device **104**, via the hot docking interfaces.