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(54) **PERIPHERAL HUB FOR MOBILE PHONES**

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(57) **ABSTRACT**

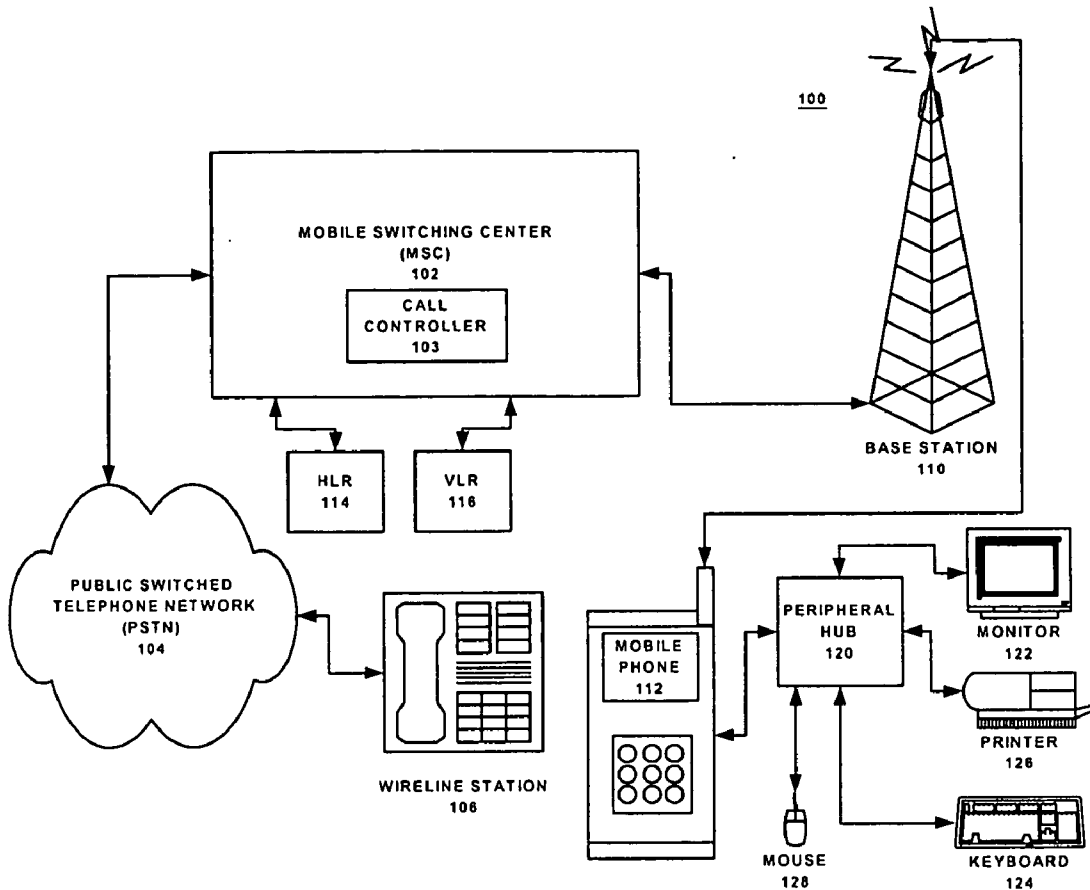
Embodiments of the method and system provide a system that provides for interfacing a data capable mobile phone to peripheral devices. The system may have: an internal bus in the mobile phone; a peripheral hub operatively connected to the internal bus; a plurality of peripheral devices operatively connected to the peripheral hub; and the peripheral hub respectively functionally coupling the peripheral devices to the mobile phone. The method is implemented by the system.

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RPX Corp.
Exhibit 1106

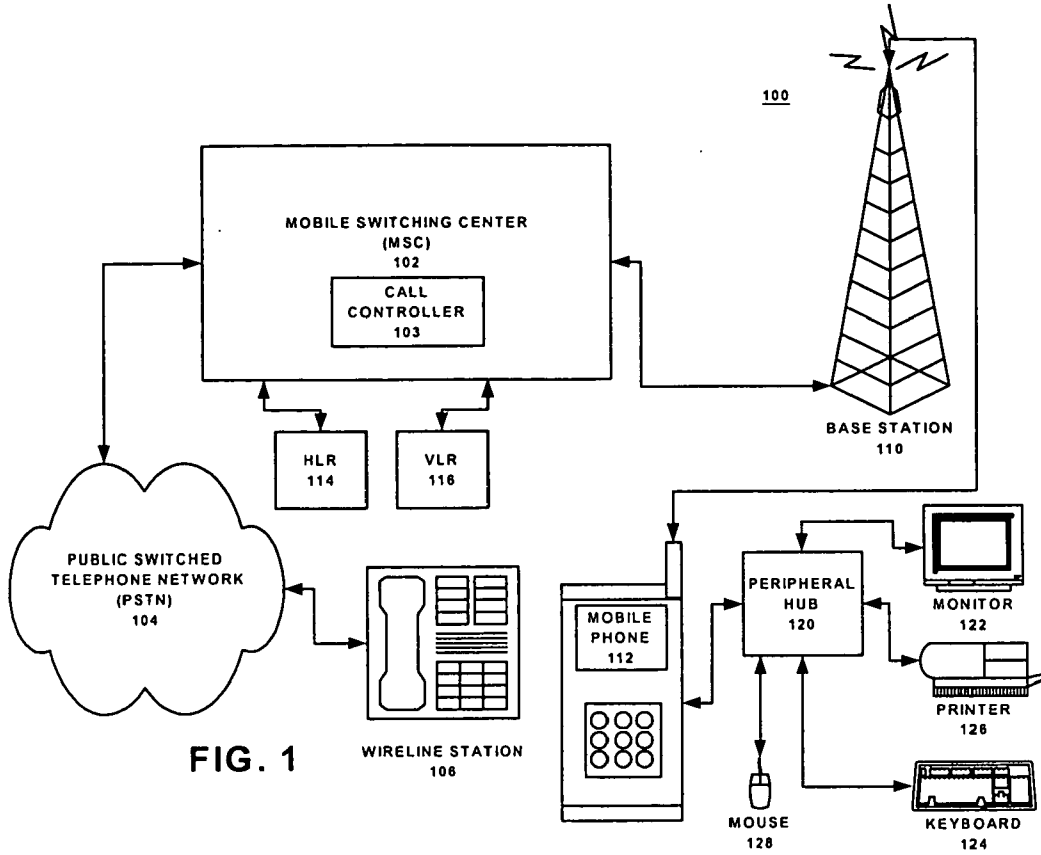


FIG. 1

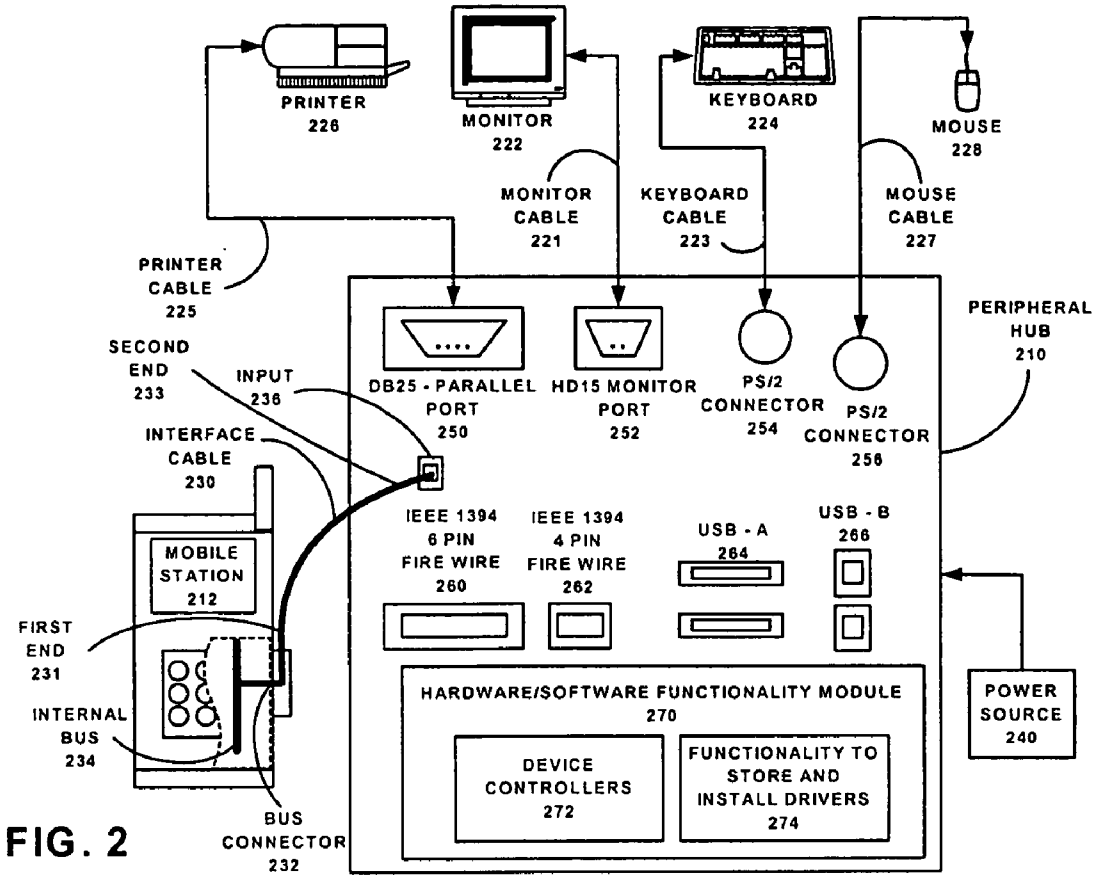


FIG. 2

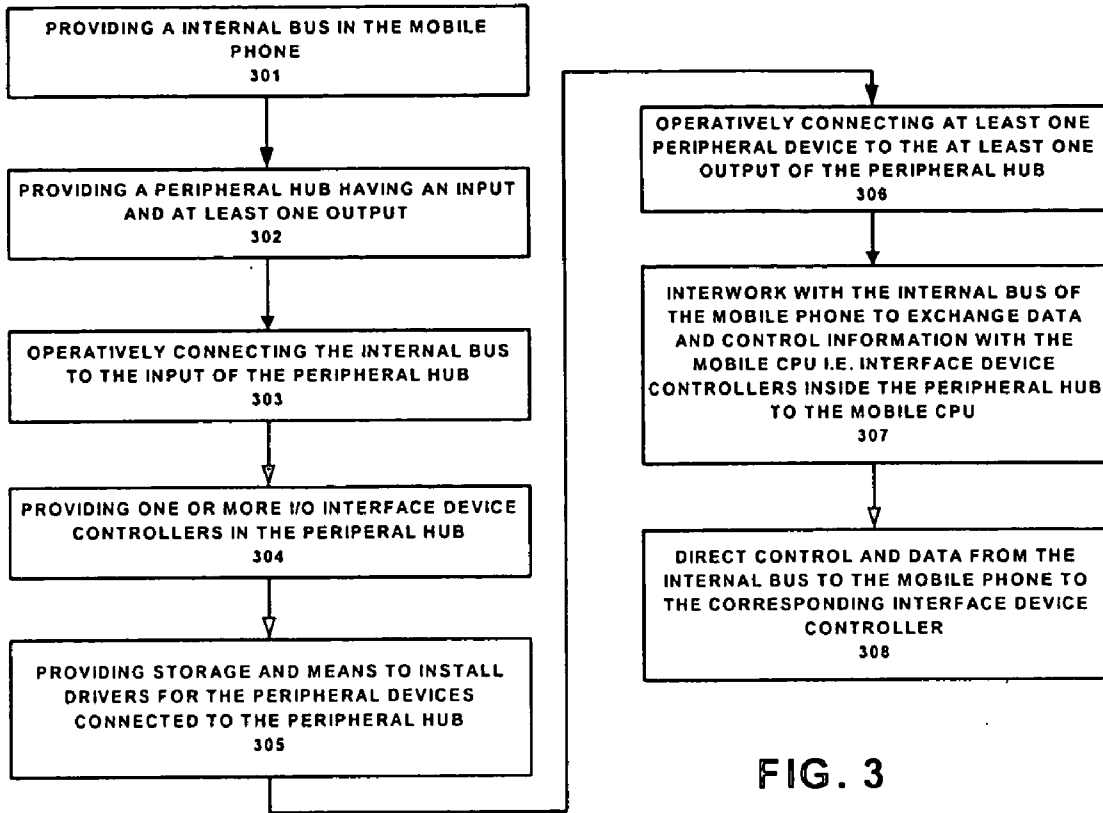


FIG. 3

PERIPHERAL HUB FOR MOBILE PHONES

TECHNICAL FIELD

[0001] The present invention relates to wireless telephony in general, and, more particularly, to a method and system that provides an interface for a data capable mobile phone. The interface provides an operable connection between the mobile phone and an external peripheral device, such as a keyboard, mouse, monitor, printer, etc.

BACKGROUND OF THE INVENTION

[0002] The general concept of connection of external peripheral devices to a computer is well known. Portable computers, such as notebook computers and laptop computers, are popular and widespread devices that provide a user with mobile computing power in a small, lightweight portable package. Although portable computers are very efficient mobile computing devices, they also can be used in non-mobile computing environments. For example, one common device that enables a user to use a portable computer as a "replacement" for a desktop computer is a docking platform. A docking platform (such as a docking station or a port replicator) facilitates the use of a portable computer with components that are usually considered non-portable and associated with the desktop computer system, such as desktop computer peripherals and network connections.

[0003] Docking platforms are typically used to interface portable computers to other portable, desktop or non-portable electronic peripherals, such as computer monitors, optical disk drives, full-size keyboards, pointing devices such as trackballs or mice, digital cameras, and other devices. Many types and styles of docking stations have been developed to interface with portable computers.

[0004] The current generation of mobile phones (also referred to as mobile handsets, mobile terminals, personal data assistances, etc.) supports packet data wireless access. With growing acceptance of mobile data applications and growing complexity of data capable mobile phones it is feasible that users may eventually want to use the data capable mobiles as computing platforms. When the data capable mobile phones are used as computing platforms, many applications are feasible, such as sharing, with an audience, a presentation off a company intranet or downloaded to the data capable mobile phone. This would be greatly facilitated if the data capable mobiles could connect to external audio/visual/data peripheral devices much like a personal computer. However, current mobile phones are unable to interface with external peripheral devices.

[0005] Thus, there is a need for an interface that is an operable connection between the mobile phone and an external peripheral device, such as a keyboard, mouse, monitor, printer, etc.

SUMMARY

[0006] The following summary of embodiments of the invention is provided to facilitate an understanding of some of the innovative features unique to the present invention and is not intended to be a full description. A full appreciation of the various aspects of the invention can be gained by

[0007] In general terms, an embodiment of the present system is a system that provides for interfacing a data capable mobile phone to peripheral devices. This embodiment of the system may have: an internal bus in the mobile phone; a peripheral hub operatively connected to the internal bus, the peripheral hub having I/O ports; a plurality of peripheral devices operatively connected to the I/O ports of the peripheral hub; device controllers in the peripheral hub for respectively the I/O ports; and the peripheral hub respectively functionally coupling the peripheral devices to the mobile phone.

[0008] In another embodiment the peripheral hub may have: an input operatively connectable to an internal bus of the mobile phone; an input that is an I/O port operatively connectable to an internal bus of the mobile phone; at least one peripheral device output that is an I/O port; a functionality module operatively connected to the input and to the at least one peripheral device output, the functionality module having I/O interface device controllers for the I/O ports; wherein the functionality module separates at least one peripheral interface from the internal bus of the mobile phone and makes the at least one peripheral interface available on the at least one output.

[0009] In a further embodiment of a system for interfacing a data capable mobile phone to at least one peripheral device, the system may have: an internal bus in the mobile phone; a bus connector on the mobile phone, the bus connector operatively connected to the internal bus; a peripheral hub having an input that is an I/O port and at least one output that is an I/O port; an interface cable having a first end releasably connectable to the bus connector and a second end operatively connected to the input of the peripheral hub; at least one peripheral device releasably connectable to the at least one output of the peripheral hub; and a functionality module operatively connected to the input and to the at least one output, the functionality module having I/O interface device controllers separating at least one peripheral interface from the internal bus of the mobile phone and making the at least one peripheral interface available on the at least one output. One embodiment of the present method for interfacing a data capable mobile phone to at least one peripheral device, may have the steps of: providing a internal bus in the mobile phone; providing a peripheral hub having an input that is an I/O port and at least one output that is an I/O port; operatively connecting the internal bus to the input of the peripheral hub; providing an I/O interface device controller respectively for each I/O port in the peripheral hub; storing and installing drivers for peripheral devices connected to the peripheral hub; operatively connecting at least one peripheral device to the at least one output of the peripheral hub; interworking with the internal bus of the mobile phone to exchange data and control information with a CPU of the mobile phone; and directing control and data from the internal bus of the mobile phone to a corresponding interface device controller for a respective peripheral device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The accompanying figures, in which like reference numerals refer to identical or functionally-similar elements

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