power on button **102** may be used to initiate a regular boot up sequence of the PC **100** in the PC mode by loading a PC operating system. The second button or PDA power on button **104** may be used to initiate the loading of the Mini-OS for operation in PDA mode. One power button may also be used that could distinguish a PC mode power up request from a PDA mode power up request depending on the time the power on button is depressed. Another way to trigger the loading of the Mini-OS is by coupling electronic devices, e.g., digital cameras, digital camcorders, and the like, to the PC **100** for downloading of digital information.

[**0028**] A traveler who may otherwise travel with a laptop and a PDA may advantageously only take the laptop and still have PDA functionality. Since the PDA functionality is incorporated into the PC **100**, it provides a direct link to the PC **100** and various systems of the PC. Hence, coupling of the PDA to a separate PC for transfer of data there between may be avoided. Such a PC **100** also gives the PDA applications access to the PC's more powerful processing circuit and larger mass storage devices, e.g., a hard disk drive, for new PDA applications that could not be supported by a PDA alone.

[**0029**] Turning to **FIG. 2, a** simplified block diagram of a PC **200** consistent with the invention including an integrated circuit (IC) **202** configured to provide PDA functionality to the PC is illustrated. The IC **202** is shown directly coupled to the Peripheral Expansion Bus **244**, which could be a variety of I/O buses in the PC **200** such as the Universal Serial Bus (USB), High Speed Serial Bus (IEEE 1394), Low Pin Count (LPC) bus, System Management Bus (SMBus), or even the PCI Bus **204**. The functionality of the IC **202** may also be embedded in a host of other circuits, e.g., in an embedded keyboard controller or any other manual input device controller **242**.

[**0030**] The PC **200** includes a central processing unit (CPU) **203**. An exemplary CPU may be, for example, a Pentium processor available from Intel Corporation for executing instructions and controlling operation of the PC **200**. The CPU **203** may be coupled to system memory **206** in a conventional manner through the host bridge **208**. In turn, the host bridge **208** may be further coupled to the system bridge **210** and PCI bus **204** in a conventional manner. A manual input device controller **242** allows a user to input data to the PC **200** through manual input devices **209** such as a keyboard, mouse, joystick, touch-pad, infrared remote control, and PDA buttons **106**, **108**, **110**, **112** as earlier detailed. The manual input device controller **242** may also be coupled to the PC power on button **102** and PDA power on button **104** functioning as input devices to provide an input signal to the PC indicating desired operation in either PC mode or PDA mode. The PCI bus **204** may be directly coupled to a variety of different controllers for controlling operation of associated peripheral devices. For example, a flash card controller **226**, a network controller **228**, and others may be directly coupled to the PCI bus **204**.

[**0031**] The PC **200** may also include a video subsystem **218** and an audio subsystem **220** which are coupled to the processing circuit **203**. A CD/DVD ROM drive **224** may be directly coupled to the system bridge **210** through an integrated drive electronics (IDE) bus in a conventional manner. The drive **224** is configured to read digital data from an external digital storage medium such as a conventional audio CD for audio applications or a conventional DVD for video applications.

[**0032**] The video subsystem **218** and the audio subsystem **220** contain a variety of circuits known to those skilled in the art for interfacing audio and video data with the processing circuit **203** through the system bridge **210** and host bridge **208** such that proper video and audio output can be played on a video output device **232** and audio output device **234** respectively. The video output device **232** may be a CRT, LCD matrix display or the like, while the audio output device **234** may be speakers, headphones, and the like.

[**0033**] An audio input device, e.g., a microphone, may be utilized to input audio data to the audio subsystem **220**. The audio and video data to be displayed on the output devices **232**, **234** may be obtained from a number of sources including system memory **206**, CDs, DVDs, through electronic networking connections from other electronic storage sources, or from the audio input device.

[**0034**] The PC **200** receives power from a power source (not illustrated). For a desktop computer, the power source is typically conventional 120-volt AC power, which is converted to DC power by appropriate AC/DC converters. For a laptop, the power source may be a variety of standalone power sources such as a battery, solar cell, or the like. Batteries may include rechargeable batteries such as lithium, nickel-cadmium, or nickel-metal hydride.

[**0035**] Turning to **FIG. 3, a** block diagram of one exemplary embodiment for integrating an IC **302** consistent with the invention with various PC components of a PC to provide PDA functionality to the PC is illustrated. In general, the IC **302** may be configured to receive input instructions from the function keys **306**, to drive a small LCD module **314**, and to control the audio interface **312** between the system bridge and the audio subsystem **320** to generate sound effects. The function keys may be the PDA buttons **106**, **108**, **110**, **112** as earlier detailed enabling a user to bring up different PDA applications or screens when the PC is in operating in PDA mode.

[**0036**] As different function keys **306** are activated, an LCD controller interface of the IC send instructions or commands to the small LCD module **308** for different visual effects such as blinking and scrolling to meet different PDA application requirements. Since the LCD module **314** has a surface area that is less than the surface area of the normal size display screen **118**, it permits power savings compared to its larger display counterpart **114** typically used in PC operating mode. In addition, further power savings may be realized by having the IC **302** store information in its internal memory, and shutting down the rest of the PC system utilizing the control logic interface **310**. Again, the small LCD module **314** may not be required if the larger display screen **118** as illustrated in **FIG. 1** is used to display characters and graphics for different PDA applications.

[**0037**] Turning to **FIG. 4**, one exemplary embodiment of an IC **402** consistent with the invention is illustrated. Those skilled in the art will recognize that there are many other embodiments that may also be implemented in an IC **402** consistent with the invention. The IC **402** may include an embedded processor **404** that functions as the central processing unit for the IC **402**. The processor **404** executes