

[0030] FIG. 7C shows a cross-section of a plug according to a third embodiment.

[0031] FIG. 8A shows a cross section of a receptacle connector according to an embodiment.

[0032] FIG. 8B shows a cross section of a plug suitable to connect with the receptacle connector of FIG. 8A in multiple orientations.

[0033] FIG. 9A shows a profile view of a removable user interface according to a first embodiment.

[0034] FIG. 9B shows a profile view of a removable user interface according to a second embodiment.

[0035] FIG. 9C shows a profile view of a removable user interface according to a third embodiment.

[0036] FIG. 10 illustrates a portable electronic system according to a second embodiment.

[0037] FIG. 11A shows a first portion of a method of operating an electronic computing device according to an embodiment.

[0038] FIG. 11B shows a second portion of a method of operating an electronic computing device according to an embodiment.

DETAILED DESCRIPTION

[0039] Embodiments of the invention are discussed below with reference to FIGS. 1 to 11B. However, those skilled in the art will readily appreciate that the detailed description given herein with respect to these figures is for explanatory purposes only as embodiments of the invention extend beyond these limited embodiments.

[0040] FIG. 1 illustrates a portable electronic system 100 according to a first embodiment. Portable electronic system 100 includes an electronic computing device 110 and a removable user interface 150.

[0041] According to this embodiment, electronic computing device 110 is a portable media player. For example, electronic computing device 110 may be an iPod as manufactured by Apple, Inc. of Cupertino, Calif.; a Microsoft Zune as manufactured by Microsoft Corp. of Redmond, Wash.; a Creative Zen as manufactured by Creative Technology Ltd. of Singapore; etc. According to other embodiments, electronic computing device 110 is not a portable media player. Rather, electronic computing device 110 may be any portable electronic computing device with a receptacle connector for establishing an electrical connection with other devices. For example, electronic computing device 110 may be a cellular phone, a personal digital assistant (PDA), a camera, a game player, a laptop computer, a netbook, a tablet, a booklet, a slate, a convertible notebook, etc.

[0042] Electronic computing device 110 includes a number of surfaces. In one embodiment, electronic computing device 110 includes front surface 112, a rear surface 114, and side surfaces 116. Side surfaces 116 are separate from and arranged perpendicular to front surface 112 and rear surface 114. However, such an arrangement is not necessary. For example, one or more of side surfaces 112 and rear surface 114 may form a continuous surface. In one embodiment, front surface 112 is arranged opposite to rear surface 114. Front surface 112 may be parallel to rear surface 114, but may alternatively be angled with respect to rear surface 114.

[0043] According to one embodiment, front surface 112 includes a digital display 118 for displaying information. Digital display 118 could be any suitable display for performing such operation, such as a liquid crystal display (LCD), a light-emitting diode (LED) display, etc.

[0044] In some embodiments, front surface 112 includes an input element 120. Input element 120 may be operable to receive user inputs. For example, input element 120 may show icons for play, pause, fast forward, rewind, volume up, and/or volume down. When a user engages any of these elements by, e.g., touch or depression, electronic computing device 110 may respond by performing the requested function, such as increasing the volume of a song or other media.

[0045] In other embodiments, front surface 112 includes both digital display 118 and input element 120. Front surface 112 may include more than one digital display 118 and/or more than one input element 120. Digital display 118 and/or input element 120 need not be provided on front surface 112. Rather, they may be provided on any suitable surface. For example, one or more input elements 120 may be provided on a side surface 116.

[0046] Electronic computing device 110 also includes a receptacle connector 122. Receptacle connector 122 may be any suitable connector for establishing an electrical connection with other electronic devices, where the electrical connection is operable to communicate information between electronic computing device 110 and the electronic device coupled thereto via receptacle connector 122. In one embodiment, receptacle connector 122 is a 30-pin connector such as that described in U.S. Pat. No. 6,776,660, which is commonly assigned and incorporated herein by reference in its entirety for all purposes. In another embodiment, receptacle connector 122 is a magnetic connector such as that described in U.S. Pat. No. 7,311,526, which is commonly assigned and incorporated herein by reference in its entirety for all purposes. In other embodiments, however, receptacle connector 122 may be any other suitable connector for establishing an electrical connection, such as a USB connector, an audio connector (TRS connector, digital optical audio connector, etc.), a video connector (VGA, DVI, S-Video, etc.), an audio/video connector (RCA, HDMI, DisplayPort, etc.), a data connector (Firewire, eSATA, etc.), etc. In some of these embodiments, a shape of receptacle connector 122, shape of pins housed by receptacle connector 122, etc. may operate to provide a resistance force upon disengaging plugs from receptacle connector 122. In other embodiments, receptacle connector 122 may include one or more magnetic elements that operate to provide a resistance force upon disengaging receptacle connector 122 from plugs that have corresponding magnetic elements.

[0047] Receptacle connector 122 may be located on any surface of electronic computing device 110. In one embodiment, receptacle connector 122 is located on side surface 116. However, receptacle connector 122 may be located on front surface 112, rear surface 114, any other side surface 116, etc. In some embodiments, a number of same or different receptacle connectors 122 are provided on one or more surfaces of electronic computing device 110.

[0048] Electronic computing device 110 may also include one or more suitable processors and storage mediums (not shown). The storage medium may be any suitable tangible non-transitory computer readable medium, such as a random access memory (RAM), a read only memory (ROM), a magnetic medium such as a hard-drive or a floppy disk, a Flash memory device or SSD, or an optical medium such as a CD-ROM. The storage medium may store software code for performing any of the functions described in this application associated with electronic computing device 110. The software code may be stored in any suitable language, such as