

transmitting and receiving data to and from a host device such as a general purpose computer (e.g., desktop computer, portable computer). By way of example, the data port **118** may be used to upload or download audio, video and other images to and from the media device **100**. For example, the data port may be used to download songs and play lists, audio books, ebooks, photos, and the like into the storage mechanism of the media player.

[0089] The data port **118** may be widely varied. For example, the data port may be a PS/2 port, a serial port, a parallel port, a USB port, a Firewire port and/or the like. In some cases, the data port **118** may be a radio frequency (RF) link or optical infrared (IR) link to eliminate the need for a cable. Although not shown in **FIG. 2**, the media player **100** may also include a power port that receives a power connector/cable assembly configured for delivering power to the media player **100**. In some cases, the data port **118** may serve as both a data and power port. In the illustrated embodiment, the data port **118** is a Firewire port having both data and power capabilities.

[0090] Although only one data port is described, it should be noted that this is not a limitation and that multiple data ports may be incorporated into the media player. In a similar vein, the data port may include multiple data functionality, i.e., integrating the functionality of multiple data ports into a single data port. Furthermore, it should be noted that the position of the hold switch, headphone jack and data port on the housing may be widely varied. That is, they are not limited to the positions shown in **FIG. 2**. They may be positioned almost anywhere on the housing (e.g., front, back, sides, top, bottom). For example, the data port may be positioned on the bottom surface of the housing rather than the top surface as shown.

[0091] Referring to **FIG. 9**, the touch pad **110** will be described in greater detail. In this particular embodiment, the touch pad is operating in an absolute mode. That is, the touch pad reports the absolute coordinates of where it is being touched. As shown, the touch pad **110** includes one or more zones **124**. The zones **124** represent regions of the touch pad **110** that may be actuated by a user to implement one or more actions or movements on the display screen **104**.

[0092] The distribution of the zones **124** may be widely varied. For example, the zones **124** may be positioned almost anywhere on the touch pad **110**. The position of the zones **124** may depend on the coordinate system of the touch pad **110**. For example, when using polar coordinates, the zones **124** may have one or more radial and/or angular positions. In the illustrated embodiment, the zones **124** are positioned in multiple angular positions of the Polar coordinate system. Further, the zones **124** may be formed from almost any shape whether simple (e.g., squares, circles, ovals, triangles, rectangles, polygons, and the like) or complex (e.g., random shapes). The shape of multiple button zones **124** may have identical shapes or they may have different shapes. In addition, the size of the zones **124** may vary according to the specific needs of each device. In some cases, the size of the zones **124** corresponds to a size that allows them to be easily manipulated by a user (e.g., the size of a finger tip or larger). In other cases, the size of the zones **124** are small so as to improve resolution of the touch pad **110**. Moreover, any number of zones **124** may be used. In the

illustrated embodiment, four zones **124A-D** are shown. It should be noted, however, that this is not a limitation and that the number varies according to the specific needs of each touch pad. For example, **FIG. 5** shows the media player **100** with 16 button zones **124A-P**.

[0093] The number of zones **124** generally depends on the number of sensor coordinates located within the touch pad **110** and the desired resolution of the touch pad **110**. The sensors are configured to sense user actions on the zones **124** and to send signals corresponding to the user action to the electronic system. By way of example, the sensors may be capacitance sensors that sense capacitance when a finger is in close proximity. The arrangement of the sensors typically varies according to the specific needs of each device. In one particular embodiment, the touch pad **110** includes **1024** sensor coordinates that work together to form **128** zones.

[0094] Referring to **FIGS. 9 and 10**, the zones **124** when actuated are used to produce on screen movements **126**. The control signal for the on screen movements may be initiated by the touch pad electronics or by the main system processor of the media player. By tapping or touching the zone, an object can be moved on the display. For example, each zone **124** may be configured to represent a particular movement on the display screen **104**. In the illustrated embodiments, each of the zones **124** represents a particular direction of movement. The directions may be widely varied, however, in the illustrated embodiment, the directions generally correspond to angular directions (e.g., similar to the arrow keys on the keyboard).

[0095] Referring to **FIG. 9**, for example, the touch pad **110** is divided into several independent and spatially distinct zones **124A-D**, each of which corresponds to a particular movement direction **126A-D** (as shown by arrows), respectively. When zone **124A** is actuated, on screen movements **126A** (to the right) are implemented. When zone **124B** is actuated, on screen movements **126B** (upwards) are implemented. When zone **124C** is actuated, on screen movements **126C** (to the left) are implemented. When zone **124D** is actuated, on screen movements **126D** (downwards) are implemented. As should be appreciated, these embodiments are well suited for joystick implementations, two dimensional menu selection, photo image panning and the like.

[0096] **FIGS. 11A-11D** show the media player **100** of **FIG. 8** being used by a user **130**, in accordance with one embodiment of the invention. In this embodiment, the media player **100** is being addressed for one handed operation in which the media player **100** is held in the user's hand **136** while the buttons and touch pad **110** are manipulated by the thumb **138** of the same hand **136**. By way of example, the palm **140** and rightmost fingers **141** (or leftmost fingers if left handed) of the hand **136** are used to grip the sides of the media player **100** while the thumb **138** is used to actuate the touch pad **110**. As shown, the entire top surface of the touch pad **110** is accessible to the user's thumb **138**. Referring to **FIG. 11A**, on screen movements **126A** to the right are implemented when the thumb **138** is placed (or tapped) on button zone **124A**. Referring to **FIG. 11B**, on screen movements **126B** upwards are implemented when the thumb **138** is placed on button zone **124B**. Referring to **FIG. 11C**, on screen movements **126C** to the left are implemented when the thumb **138** is placed on button zone **124C**. Referring to