electrical signals, buttons (e.g., control keys **120**) to permit data and control commands to be input into terminal **100**, and/or a display (e.g., display **140**) to output visual information.

[0044] Communication interface **260** may include, for example, a transmitter that may convert base band signals from processing logic **210** to radio frequency (RF) signals and/or a receiver that may convert RF signals to base band signals. Alternatively, communication interface **260** may include a transceiver to perform functions of both a transmitter and a receiver. Communication interface **260** may connect to antenna assembly **270** for transmission and reception of the RF signals. Antenna assembly **270** may include one or more antennas to transmit and receive RF signals over the air. Antenna assembly **270** may receive RF signals from communication interface **260** and transmit them over the air and receive RF signals over the air and provide them to communication interface **260**.

[0045] Power supply **280** may include one or more power supplies that provide power to components of terminal **100**. For example, power supply **280** may include one or more batteries and/or connections to receive power from other devices, such as an accessory outlet in an automobile, an external battery, or a wall outlet. Power supply **280** may also include metering logic to provide the user and components of terminal **100** with information about battery charge levels, output levels, power faults, etc.

[0046] As will be described in detail below, terminal **100**, consistent with the principles described herein, may perform certain operations relating to receiving inputs via keypad area **110** in response to user inputs or in response to processing logic **210**. Terminal **100** may perform these operations in response to processing logic **210** executing software instructions of a keypad configuration/reprogramming application contained in a computer-readable medium, such as storage **220**. A computer-readable medium may be defined as a physical or logical memory device and/or carrier wave.

[0047] The software instructions may be read into storage **220** from another computer-readable medium or from another device via communication interface **260**. The software instructions contained in storage **220** may cause processing logic **210** to perform processes that will be described later. Alternatively, hardwired circuitry may be used in place of or in combination with software instructions to implement processes consistent with the principles described herein. Thus, implementations consistent with the principles of the embodiments are not limited to any specific combination of hardware circuitry and software.

[0048] FIG. **3** illustrates an exemplary functional diagram of the keypad logic **240** of FIG. **2** consistent with the principles of the embodiments. Keypad logic **240** may include control logic **310**, display logic **320**, illumination logic **330**, position sensing logic **340** and displacement sensing logic **350**.

[0049] Control logic **310** may include logic that controls the operation of display logic **320**, and receives signals from position sensing logic **340** and displacement sensing logic **350**. Control logic **310** may determine an input character based on the received signals from position sensing logic **340** and/or displacement sensing logic **350**. Control logic **310** may be implemented as standalone logic or as part of processing logic **210**. Moreover, control logic **310** may be implemented in hardware and/or software.

[0050] Display logic **320** may include devices and logic to present information via keypad area **110**, to a user of terminal **100**. Display logic **320** may include processing logic to interpret signals and instructions and a display device having a display area to provide information. Implementations of display logic **320** may include a liquid crystal display (LCD) that includes, for example, biphenyl or another stable liquid crystal material. In this embodiment, keys **112** may be displayed via the LCD.

[0051] Illumination logic **330** may include logic to provide backlighting to a lower surface of keypad area **110** in order to display information associated with keys **112**. Illumination logic **330** may also provide backlighting to be used with LCD based implementations of display logic **320** to make images brighter and to enhance the contrast of displayed images. Implementations of illumination logic **330** may employ light emitting diodes (LEDs) or other types of devices to illuminate portions of a display device. Illumination logic **330** may provide light within a narrow spectrum, such as a particular color, or via a broader spectrum, such as full spectrum lighting. Illumination logic **330** may also be used to provide front lighting to an upper surface of a display device or keypad area **110** that faces a user. Front lighting may enhance the appearance of keypad area **110** or a display device by making information more visible in high ambient lighting environments, such as viewing a display device outdoors.

[0052] Position sensing logic **340** may include logic that senses the position and/or presence of an object within keypad area **110**. Implementations of position sensing logic **340** may be configured to sense the presence and location of an object. For example, position sensing logic **340** may be configured to determine a location (e.g. one of keys **112**) in keypad area **110** where a user places his/her finger regardless of how much pressure the user exerts on keypad area **110**. Implementations of position sensing logic **340** may use capacitive, resistive or inductive techniques to identify the presence of an object and to receive an input via the object. In one implementation for example, position sensing logic **340** may include a transparent film that can be placed within keypad area **110**. The film may be adapted to change an output, such as a voltage or current, as a function of a change in capacitance, resistance, or an amount of pressure exerted on the film and/or based on a location where capacitance, resistance or pressure is exerted on the film. For example, assume that a user presses on the film in an upper left hand corner of the film. The film may produce an output that represents the location at which the pressure was detected.

[0053] Displacement sensing logic **350** may include mechanisms and logic to sense a displacement of a mechanism within keypad area **110**. For example, displacement sensing logic **350** may sense movement of a glass cover over keypad area **110** or an LCD contained within keypad area **110**. Implementations of displacement sensing logic **350** may include mechanisms that produce electrical signals from displacements, such as any type of actuator or a piezoelectric actuator, etc. In one implementation of terminal **100**, displacement sensing logic **350** may be used to sense when the user has exerted a pressure, or force, that exceeds a determined threshold. Further details of the mechanisms included within displacement sensing logic **350** are shown in FIGS. **4**A and **4**B.

[0054] FIGS. **4**A and **4**B illustrate an exemplary key input system within keypad area **110**. As shown, the key input