

input **30** also includes function buttons for selecting various functions and direction buttons for selecting a specific direction. Further, the input **30** may be implemented as a keypad, a touchpad, a jog dial, a touch screen, or a joystick, which includes direction keys.

[0028] The display **40** displays a variety of information such as status information, menu options for selecting different features on the terminal **100**, etc. In addition, the display **40** may include a Liquid Crystal Display (LCD) or an Organic Light Emitting Diode (OLED) display. The display **40** may also include two or more display devices such as an external display device and an internal display device. Further, the display device may include a touch screen that a user can touch to select or input information into the terminal **100**. The touch screen also displays various information to the user. Hereinafter, the reference numeral **40** is used to describe a touch screen, which is implemented as the display **40**.

[0029] Also, according to an embodiment of the present invention, the touch screen **40** also displays a dial that the user can touch and drag (or slide) to perform a dialing operation. That is, the displayed dial includes a rotary dial that the user can dial to perform a dialing operation. Further, the displayed dial may also be used by the user to perform other functions in addition to the dialing operation. These features will be discussed in more detail later.

[0030] The controller **50** includes a processor that controls an overall operation of the terminal **100** based on the programs and data stored at the memory **20**. For example, the controller **50** receives an input of a specific number key when the user touches a specific number key or position on the touch screen **40**. The controller **50** also executes a specific function corresponding to specific number keys the user touches and slides or drags.

[0031] In addition, the audio processor **60** processes audio signals decoded by the controller **50** and outputs the signals via a speaker SPK under control of the controller **50**. The audio processor **60** also processes audio signals from a microphone MIC and transmits the processed audio signals to the controller **50**.

[0032] In addition, the vibrator **70** generates a vibration for a predetermined time period under control of the controller **50**. For example, if a specific soft key displayed on the display **40** is touched, the controller **50** may control the vibrator **70** to generate a vibration for a predetermined time period. The vibrator **70** may also vibrate when an incoming call is received so as to notify the user about the incoming call. A description of the rotary dial being displayed on the touch screen **40** and being used to perform dialing and other operations will now be described.

[0033] In more detail, FIGS. **2A** and **28** are overview illustrating rotary dials being displayed on the touch screen **40** according to an embodiment of the present invention. As shown, in FIG. **2A**, a rotary dial including soft keys **220** is displayed on the touch screen **40**. As shown, the soft keys **220** include number keys **210** from "0" to "9", and function keys **215**, for example, "*" and "#". Alternatively, the soft keys **220** may include only the number keys **210** without the function keys **215**.

[0034] In addition, the soft keys **220** are displayed along the peripheral of a circle (i.e., as a rotary dial). Also, each of the soft keys **220** is separated a predetermined distance from each other such that the user can easily touch and slide or drag a particular soft key **220**. Further, it is also possible to display the soft keys **220** in an oval or a looped curve shape.

[0035] FIG. **2B** illustrates a different arrangement of the soft keys **220**. That is, FIG. **2B** illustrates the soft keys **220** shown in FIG. **2A**, but also displays an outline of a rotary dial casing **230**. The rotary dial also includes a stopper **240** displayed at an outer periphery adjacent to the function key **215**. The rotary dial shown in FIG. **2B** gives a nostalgic feeling to the user when performing a dialing operation. Further, when a particular soft key **220** is touched and rotated (slid or dragged) on the touch screen **40** past the stopper **24**, the controller **240** outputs a clicking sound via the speaker SPK.

[0036] Note that in the arrangement in FIG. **2A**, which does not include the rotary dial casing **230** nor the stopper **240**, the controller **240** can inform the user the soft key **220** has been entered by controlling the vibrator **70** to vibrate. Further, the user may select the different arrangements shown in FIGS. **2A** and **2B** (as well as the other figures) using appropriate menu options provided on the terminal **100** (e.g., by selecting particular rotary dial arrangements among a plurality of available rotary dial arrangements).

[0037] Hereinafter, the rotary dial arrangement shown in FIG. **2B** will be used to explain different features of the present invention. For example, FIG. **3** is an overview of a user touching one of the soft keys **220** in the rotary dial arrangement shown in FIG. **2B**.

[0038] As shown in FIG. **3**, when the user touches the soft key "3", the controller **50** receives the input number "3" corresponding to the touched soft key. Further, FIG. **3** illustrates the user touching the number "3" using his finger, however, the user may also use a stylus pen or any other pointing object. In addition, as shown in FIG. **3**, upon receiving the input of the number, the controller **50** displays the number "3" at an inside area **250** of the rotary dial casing **230**. Thus, the user can see the number has been successfully input.

[0039] Further, when the number "3" has been preset to correspond with particular information, the controller **50** also displays information related to the touched number. FIG. **3** illustrates a name, phone number and email address corresponding to the number "3" that was previously saved in the memory **20**. In addition, FIG. **3** illustrates the controller **50** displaying the information related to the touched soft key in the area **250**, but the controller **50** can also display this information at any other location on the touch screen **40** (e.g., at lower left or right portions of the touch screen **40**).

[0040] Next, FIGS. **4A-4D** are overviews illustrating the soft number key "3" being touched and slid (or dragged) by a user. In more detail, FIG. **4A** illustrates the user touching the soft key "3" and beginning to rotate the rotary dial casing **230** in a clockwise direction. FIG. **4B** illustrates in more detail the rotary casing **230** being rotated as the user touches and slides the soft key "3" in the clockwise direction. Note that the stopper **240** does not rotate as the user rotates the soft key "3" in the clockwise direction.

[0041] FIG. **4C** illustrates the user releasing his finger from the soft key "3" prior to rotating the soft key "3" past the stopper **240**. FIG. **4D** illustrates the rotary casing **230** being returned to its original position as in FIG. **4A**. Thus, in this instance, because the user did not rotate the soft key "3" past the stopper **240**, the controller **50** does not dial the number shown in the inside area **240**. That is, the user would have to rotate the soft key "3" past the stopper **240** to have the number dialed for the person shown in the inside area **240**.

[0042] In addition, the speed at which the rotary casing **230** is returned to its original position is preferably faster than the speed at which the user rotates the rotary casing **230** in the