of the "button" or "pad" that was actuated. The functions of a "SEND" and "END" key are generally known to start and stop a wireless phone call. A portion of the display **(215)** is reserved for displaying the telephone number as it is being typed in.

[0021] In most cases, the user inputs a telephone number, as well as the "*" and "#" keys by touching the touchscreen over the number or symbol desired. This number (or symbol) is then added to the telephone number at the top of the screen **(215)**. Once the entire telephone number has been entered, the user touches the screen over the send key **(207)** to transmit the number to the system's switch for dialing. For purposes of claim construction, the term "number" should be construed as including the numerals zero through nine as well as the "*" and "#" keys but also including possibly any other alphanumeric symbol.

[0022] In the preferred embodiment, the user receives an aural feedback whenever a "key" is contacted. Since the surface of the screen of the preferred embodiment is smooth and there is no key movement to let the user know that data has been entered, the telephone can be set up to generate an electronic beep, clicking noise, or some other sound to indicate the successful actuation of each "key". The chosen sound may be chosen by setting up user preferences of the telephone operator or the sound may be turned off for silent operation.

[0023] The touchscreen display, in the preferred embodiment, is responsive to a touch sensor that detects mechanical pressure from a user's finger on a particular portion of the screen. The touch sensor may be a film behind a flexible tactile transducer film or a thin film in front of tactile elements (discussed subsequently in **FIG. 8**), with sufficient flexibility and compliance that it does not impair the tactile perception of the screen.

[0024] The touch sensor may also be a film layer of the tactile surface itself, or may include touch sensitive elements interspersed adjacent to the tactile dot elements so that neither the touch sensor nor the tactile display elements overlay the other. Other touch screens embodiments use grids of interruptible light beams, capacitive discharge sensors, and conductive grids sensing a circuit made across nearby nodes, all of which are considered herein to be structures (circuits and components) equivalent to each other.

[0025] The telephone of the present invention is capable of multiple operating modes to take advantage of the large touchscreen display. **FIG. 3** illustrates an example of some of these modes. In order to enter the telephone mode and display the embodiment illustrated in **FIG. 2**, the user touches the telephone mode icon **(301)**. An address/telephone book icon **(305)** takes the user to listings of stored telephone numbers and addresses. By touching a desired telephone number, the telephone of the present invention will automatically go to the telephone mode and dial that number.

[0026] The display also has a browser icon **(310)** that takes the user to the browser program used by the telephone. The browser is a scaled down version of a personal computer browser such as NETSCAPE NAVIGATOR and, in the preferred embodiment, conforms to the wireless access protocol (WAP) standard for wireless Internet access. This browser program enables the user to access selected Web sites over the Internet and display the accessed data on the large telephone display. It can be seen the that lack of a fixed telephone keypad enables substantially more data to be displayed while in this mode than would be possible with the fixed keypad.

[0027] In another embodiment, another method for the present invention to display information is using NTT Do-Co-Mo's I-mode. This mode is well known in the art and is not discussed further.

[0028] Also illustrated in **FIG. 3** is the email icon **(315)** for accessing the email program of the telephone of the present invention. By touching the screen over this icon, the telephone runs the email program that allows the user to enter and send emails using the wireless telephone.

[0029] In one embodiment, the telephone of the present invention has a built-in speaker **(325)** to enable the user to hear telephone conversations. The telephone in this embodiment also has a microphone **(320)** built in to the telephone to enable the user to speak to the other parties on the telephone conversation.

[0030] **FIG. 4** illustrates an alternate embodiment of the present invention that uses a wireless headset **(405)** to communicate with the telephone **(401)** of the present invention. In order to reduce the size and weight of the telephone **(401)** and also to give more room for the display, this embodiment does not have a built-in speaker and microphone. Instead, the wireless headset **(405)** performs the same task as a built-in speaker and microphone.

[0031] An example of such a wireless headset embodiment is the Bluetooth standard being developed by cellular telephone manufacturers. The Bluetooth standard uses a low power (1 mW) transmitter in the headset **(405)** and telephone **(401)** that enables them to communicate back and forth without wires. The information communicated between the headset **(405)** and the telephone **(401)** operates at 2.4 GHz, a data rate of up to 720 kb/s, and can reach distances of 10 meters.

[0032] **FIG. 9** illustrates a block diagram of the embodiment of **FIG. 4**. The unit includes the low-power transceiver **(901)** that communicates with the headset **(905)**.

[0033] This type of headset allows the user to better use the display while talking on the telephone. For example, if the party on the other end of the conversation asks to set up a meeting with the telephone user, the telephone user can access and view his datebook in the device while still carrying on the conversation.

[0034] **FIG. 5** illustrates a block diagram of the preferred embodiment of the present invention. The telephone is comprised of a transmitter **(501)** and receiver **(505)** that are coupled to an antenna **(520)**. The antenna **(520)** receives the radiotelephone signals from the base station for the receiver **(505)** to demodulate into speech signals. The antenna **(520)** also transmits modulated signals from the transmitter **(501)** to the base station.

[0035] The telephone is controlled by a controller **(510)** that is coupled to the transmitter **(501)**, receiver **(505)**, and the touchscreen display **(515)** of the present invention. The controller **(510)**, in the preferred embodiment, is a microcontroller that uses microcode. Alternate embodiments use