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Z-Touch Dialing Application for Patent
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Z-Touch Dialing™

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Z-touch Dialing is an interface that is designed for a device with minimal or no traditional buttons. It uses Touch Zones or buttons and a Z-Touch Slider or navigation wheel to operate the device. The primary principle of Z-Touch Dialing is the use of the Z-Touch Slider and the Touch Zones to select characters and commands from a Character Group that is input to the device. Explicitly the Z-Touch Slider will scroll and select groups of characters or commands and the Touch Zones or buttons will pick the explicit character or command within that group. Thus all entries to this device require two operations per single input. Although this interface is not limited to just mobile phone devices, when studying typical operations, selections and entries to current mobile phones using traditional numeric keyboards, it has been found that often many more than two operations or button presses must be executed to input a single command or character. It is felt that Z-Touch Dialing offers the user a very intuitive and efficient interface with minimal input pads or buttons. This allows devices to get smaller and have less buttons rather than the opposite trend in the current mobile device market. This also allows the user to operate the device with an optimized and efficient interface. The below examples are shown using one Z-Touch Slider and 4 Touch Zones and the concept is in context of a hand held mobile cellular phone. This interface is not limited to four touch zones per group, however, and may have 2, 4, 6 or 8 or more touch zones and characters per group. Again this concept is not limited to hand held mobile devices either though the following examples are shown on a hand held mobile device.

Z-Touch Dialing on a Mobile Device

The primary interface in this example is an LCD that has 4 Touch Zones in the four Quadrants of the front LCD. The front LCD covers most of the front of the phone. The touch zones lay over a multi-line display. It has only 4 touch zones arranged in a Character Group of two lines and two columns since the front of the phone is small.

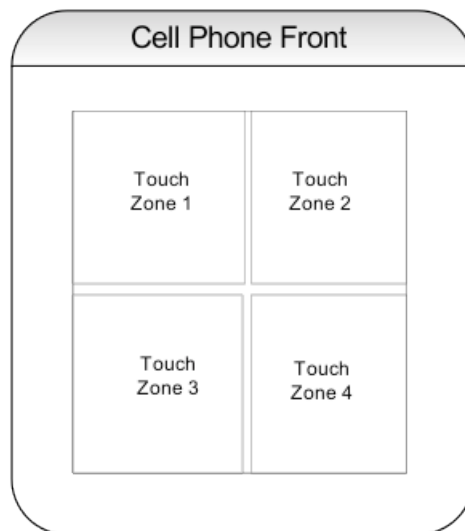


Figure 1

It also has a Z-Touch Slider which is used to scroll through the different character groups. The Z-touch slider only scrolls up and down OR side to side not in multi dimensions. Below is an example of the front of a cell phone with a Z-touch Slider that scrolls side to side. It is also feasible to have the Z-Touch pad on the back and slide up and down or on the one of the sides of the phone to slide up and down. The Z-Touch Slider may also be a wheel type entry device.

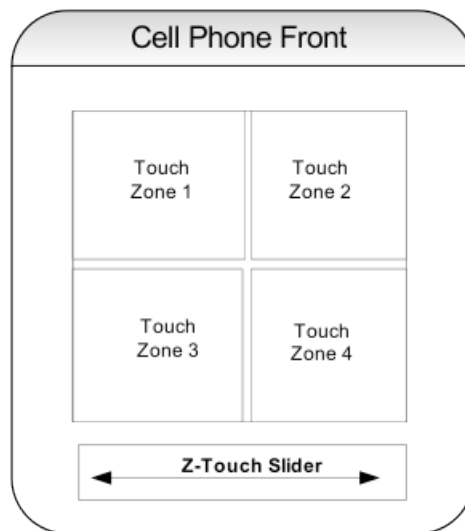


Figure 2

This device also has a power key perhaps located on top. A short press on the ON/OFF turns the "key lock" or "Hold" function on and off. This function disables the Touch Zones and Z-Touch Slider.

Character and Command Groups

Table 1 is a list of the most common character and command set in a table of groups of 4 so you can see what would be available on the 4 touch zones. The user will use the Z-Touch Slider on the back or side, or front of the phone to slide up and down or side to side to groups of 4 characters and then select one of the 4 characters on the front display by touching one of the 4 quadrant Touch Zones. It can be seen with only 12 clicks on the Z-Slider you can get to 48 characters and keys. This is done with one slide motion and one touch per character which is very efficient. The whole phone is done with 4 Touch Zones on the front display and one Z-Slider in this case on the front of the phone. Below are examples of the groups of 4s you will see on the phone. In this example when you are done dialing you slide all the way up to the Menu, Phone book, Send, End group and send it or end it.

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Menu Send	PBook End
1	2
3	4
5	6
7	8
9	0
A	B
C	D
E	F
G	H
I	J
K	L
M	N
O	P
Q	R
S	T
U	V
W	X
Y	Z
.	!
,	?
☺ space	☹ Del

Table 1

Display Examples

Figure 3 illustrates the display of the mobile device. Most of the LCD is blank and can be filled with a wall-paper background if necessary. The box in the lower center shows the top most character group, Menu, Phone Book, Send, and End. Though the four characters are only displayed in a small area on the touch sensitive LCD, the actual size of the four corresponding touch zones are much larger as in Figure 1. There may be some permanent subtle indication of the exact touch some locations built into the LCD glass but this is a minor point.

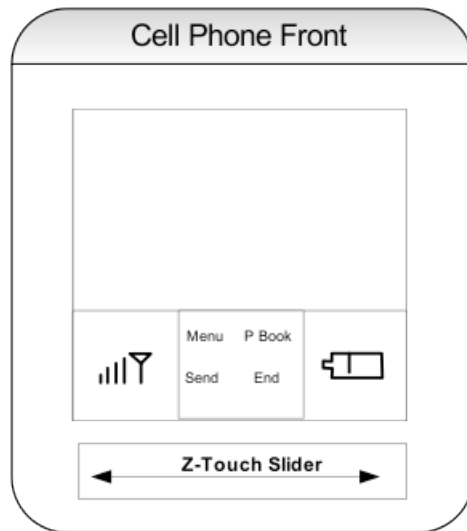


Figure 3

Figure 4 illustrates a text message generated using Z-Touch Dialing. Whether the content is a text message or picking from the phone book, or just dialing a direct number, a portion of the display is used to show the information content and a portion of the display is used to show the character group the user is picking from.

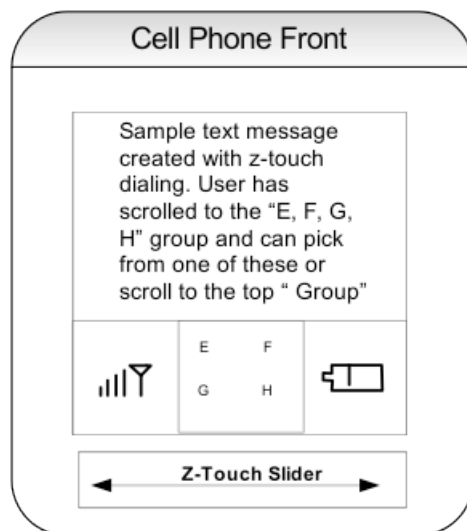


Figure 4

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