the second key **14** corresponding to the letter "A" selects "A" from this second set of alphanumeric characters, and results in replacement of the number "2" in the display field **22** with the letter "A" such that "HA" is displayed in field **24**. The user may enter the character string "HA" or continue to selective actuation of first keys **12** and second keys **14** to increase the length of the character string.

[**0036**] In **FIG. 2**E, user selection and actuation of the first key **12** associated with the primary alphanumeric symbol "9" and set of secondary alphanumeric symbols "W", "X", "Y" and "Z" results in display of the number "9" such that "HA9" appears in display field **24**, and also results the display of the letters "W", "X", and "Z" in the second keys **14**. The user may enter the character string "HA9", or continue to select additional characters. Selection and actuation of the second key **14** corresponding to "W" as shown in **FIG. 2F** results in replacement of the displayed "9" with the selected character "W" such that field **24** displays the alphanumeric characters "HAW".

[**0037**] **FIG. 2G** shows selective actuation of a fourth fixed key **12** corresponding to the primary alphanumeric character "5" and a fourth set of alphanumeric characters "J", "K" and "L", such that "HAW5" is displayed in field **24**. The user may enter the character string "HAW5" or continue to change or lengthen the character string by pressing additional keys. Selective actuation of the second key **14** corresponding to "K", for example, replaces the "5" in field **24** with "K" such that the desired alphanumeric character string "HAWK" is displayed, as shown in **FIG. 2H**. At this point, the user may actuate the "enter" key **20** to enter the selected alphanumeric character string "HAWK" for data processing as described further below. Or, the user may continue to enter additional alphanumeric characters by selection and actuation of the appropriate first, fixed keys **12** and second, soft keys **14** in the manner described above. In the event that an incorrect alphanumeric symbol has been selected and displayed, the user may press the "delete" key **18**, to "back track" and remove the unwanted character from display **24**, and then select the correct alphanumeric character by actuation of the appropriate keys.

[**0038**] Entry of purely numeric characters strings using keypad **10** may be achieved by actuating only the first keys, and not the soft keys that display the secondary, letter symbols. For example, the numeric character string "1234" may be entered by sequentially actuating the appropriate first keys **12** with the appropriate "1", "2", "3" and "4" primary alphanumeric symbols thereon, without actuation of any of the second keys **14**. In other instances, a desired character string may require successive actuation of various second keys **14** without any intervening actuation of first keys **12**. Thus, for example, the character string "FEED" may be entered by actuating the first key with "3" thereon to display the characters "D", "E" and "F" on the second keys **14**, followed by successive actuation of the appropriate second keys **14** to enter "FEED".

[**0039**] The keypad **10** advantageously allows entry of long, complex character strings of mixed letters and numbers without any switching of view screens on the display **22**. That is, the first keys **12** remain constant in appearance on the display **22** during data entry via keypad **10**, with visual change occurring only in the alphanumeric characters displayed on the second keys **14** and in display field **24**. Thus, a user of keypad **10** can enter any of the alphanumeric characters **16** while first keys **12** and second keys **14** remain in view.

[**0040**] In the embodiment shown in **FIG. 1** and **FIG. 2**, the twelve first keys **12** and four second keys **14** of keypad **10** allow up to four secondary alphanumeric characters to be associated with each first key **12** and simultaneously displayed on second keys **14**. The keypad **10** is similar to that of a conventional telephone alphanumeric keypad and use of keypad is intuitive such that new users of keypad can understand its operation with minimal instruction. In this embodiment, actuation of a first key **12** results in immediate display of the associated number symbol in field **24**, while the non-numeric, alphabetic symbols are displayed on the soft keys **14**. Actuation of the second keys **14** provides quick access to the non-numeric, alphabetic characters without requiring switching of a display screen image. In other embodiments, actuation of first keys **12** may result in display of all associated alphanumeric characters **15**, **16** on the soft keys **14**, with no character display occurring in field **24** until a second key **14** is pressed. The embodiment of **FIG. 1** and **FIG. 2** shows each first key **12** as included both primary and secondary alphanumeric symbols **15**, **16**. However, in other embodiments certain first keys **12** may include only primary alphanumeric symbols **15**, and not secondary alphanumeric symbols. Generally at least one of the first keys **12** will include both primary and second alphanumeric symbols **15**, **16**, while in many embodiments, a plurality of the first keys **12** include both primary and second alphanumeric symbols **15**, **16** as shown in **FIG. 1** and **FIG. 2**.

[**0041**] Numerous variations of keypad **10** will suggest themselves to those skilled in the art upon review of this disclosure and are considered to be within the scope of this disclosure. Keypads with a different number and configuration of first keys **12** and soft keys **14** may be used to allow selective entry of alphanumeric characters corresponding to multiple different alphabets and/or writing systems. For example, a keypad in accordance with the invention is usable to allow multiple hiragana, katakana and/or kanji characters to be associated with individual first keys and selectively displayed on soft keys upon pressing the appropriate first key.

[**0042**] Referring now to **FIG. 3**, the keypad **10** of the invention is used in association with a data processing device **26**. Data processing device **26** may comprise a hand held computer such as a personal digital assistant or "PDA". In other embodiments, data processing device may comprise a minicomputer, a microcomputer, a PC such as an INTEL® based processing computer or clone thereof, an APPLE® computer or clone thereof, a SUN® workstation, or other like computer. In the device **26**, keypad **10** is operatively coupled to a central processing unit or CPU **28** via an analog to digital converter or ADC (not shown).

[**0043**] CPU **28** is operatively coupled to various hardware components of device **26** via an address and data bus **30** and a control/status signal interface **32**. These components include, inter alia, a system memory **34** which may comprise various memory elements (not shown) such as a DRAM primary or main memory, one or more SRAM buffers, and one or more read only memory elements in the form of ROM, PROM, EPROM, EEPROM or the like. Data processor **26** also includes a direct memory access (DMA)