[0013] Micro touchpad **112** may be any type of touchpad, which are generally well known (e.g., capacitive, resistive, or electromagnetic touchpads). For example, micro touchpad **112** may be a capacitive touchpad, which may typically include a two-dimensional grid of intersecting conductive traces in the X and Y directions. When a finger or object contacts the touchpad, a control circuit, such as controller **102**, may determine the touched position on the touchpad by sensing a change in capacitance in both the X and Y directions, for example. Other types of touchpads may be used for micro touchpad **112**.

[0014] Micro touchpad **112** may, for example, include an N×M touchpad, where N and M may indicate the number of X and Y direction conductive traces, respectively. For example, micro touchpad **112** may provide 2 traces in the X direction and 2 traces in the Y direction (2×2), 5 traces in the X direction and 5 traces in the Y direction (5×5), 10 traces in the X direction and 10 traces in the Y direction (10×10), 20 traces in the X direction and 20 traces in the Y direction (20×20), 50 traces in the X direction and 50 traces in the Y direction (50×50), or any number of traces. To provide significant control and precision in a pointer control on a small area of a single key, the micro touchpad may have, for example, a resolution of at least 10×10, but other resolutions may be used. Therefore, a N×M micro touchpad **112**, which may be significant or high resolution (e.g., 20×20, or 50×50, or greater), may be provided in an upper surface of a key **110**, where key **110** may be, for example, approximately one inch by one-half inch (½"×½") or, for example, 18 mm×18 mm, although other sized keys may be used. In other embodiments, higher resolution micro touchpads may be used to provide greater precision and pointer control, and in other applications, lower resolution touchpads may be used.

[0015] According to an example embodiment, micro touch pad **112** may be provided on the H key, the J key, the F key (e.g., for index finger control of the pointer), the G key, or the space bar key (e.g., for thumb control), as examples. However, micro touch pad **112** may be provided on any key.

[0016] In addition, a micro touchpad **112** may be provided on each of a plurality (or even all) of keys on keyboard **100**. For example, a micro touchpad may be provided on an upper surface of a first key to allow pointer control by moving a finger or other object across a top surface of the micro touchpad of the first key. Another micro touchpad may be provided on an upper surface of a second key on keyboard **100** to allow scrolling (for example) control by moving a finger or other object across a top surface of the micro touchpad of the second key. In one example embodiment, the first key (e.g., having a micro touch pad thereon for pointer control) and/or the second key (e.g., having a micro touchpad thereon for scrolling, cursor control or other control) may include the F key, the H key, the J key, or the space bar, as examples. In another embodiment, the first key (e.g., having touchpad for pointer control) may be the H key or J key, and the second key (e.g., having touchpad for scrolling, cursor control) may be the F key or the G key, for example. Many other keys and key combinations may be used for one or more micro touchpads.

[0017] Keyboard **100** (FIG. **1**) may also include a mode indicator **106**, which may indicate when keyboard **100** is operating in key mode (e.g., where keyboard has detected key input and may disable one or more touchpads on keyboard **100** and enable key input) or a touchpad mode (e.g., in which keystroke or key inputs may be disabled and inputs. from touchpads on keyboard **100** may be enabled). Indicator **106** may be a visual indicator such as a light, or multiple lights or LEDs (light emitting diodes) indicating a keyboard mode (e.g., key mode or touchpad mode). Indicator **106** may include another type of indicator such as an audio or tactile indicator (e.g., physical indicator, which may vibrate or move to indicate mode). The indicator may also be located on a remote display, such as the monitor or display of a personal computer, or a cell phone screen, or other display. In addition, a key on keyboard **100** may be used to allow a user to manually select a keyboard mode, for example, to toggle between key mode and touchpad mode (or touch mode).

[0018] According to another embodiment, as shown in FIG. **1**, a macro (or multi-key) touchpad **114** may be provided including a touch sensor provided on an upper surface of each of a plurality of keys on keyboard **100**. For example, macro touchpad **114** may include touch sensors provided on each of keys **116**, **118**, **120**, **122**, **124**, **126**, **128** and **130**. For example, a touch sensor **117** may be provided on an upper surface of key **120**, as shown in FIG. **1**. Other keys within macro touchpad **114** may similarly include a touch sensor thereon, as shown. Macro touchpad **114** may include any number of keys, e.g., all the keys on keyboard **100**, or a subset of the keys of keyboard **100**. While the touch sensors are illustrated in FIG. **1** as being slightly smaller (in area) than the surface of each key, the touch sensors may be any size, and may have a size or area that matches the upper surface of the key, for example. Macro touchpad **114** may provide a touchpad for pointer control, cursor control or other control by allowing a user to move his/her finger across one or more keys within the macro touchpad **114**. Macro touchpad **114** may include key **110**/micro touchpad **112** as well.

[0019] Each touch sensor (e.g., touch sensor **117** on key **120**) may be any conventional touch sensor, or sensor to detect touch or contact to the key. In one example embodiment, one or more of the touch sensors may be a micro touchpad (e.g., N×M touchpad). A touch sensor, in a very simple embodiment, may even be a 1×1 micro touchpad for example, which may be, for example, a single capacitive sensor (rather than multiple traces or cells per key). In example embodiments, each of the touch sensors, if provided as a micro touchpad, may be the same resolution (N×M) as micro touchpad **112**, or may be a different resolution than touch pad **112**. For example, micro touchpad **112** on key **110** may have a resolution of 100×100, or 50×50, or 30×30, or 25×25, or 20×20, or 10×10 (as examples), while the micro touchpads (touch sensors) for the other keys (**116**, **118**, **120**, **122**, **124**, **126**, **128** and **130**) of macro touchpad **114** may have a lower resolution, such as a resolution of 1×1, 2×2, 3×3, 5×5 or 10×10, as examples. These are just a few examples and the disclosure is not limited thereto.

[0020] In an example embodiment, micro touchpad **112** on key **110** may be adapted to allow at least small-scale (e.g., relatively short distance) and/or precise (or fine) pointer control (e.g., under an index finger or adjacent to an index finger) due to the small size and relatively high resolution of micro touchpad **112**, for example. For example, a user may be able to accurately move the pointer to a specific location