

[0027] For example, overlay **100** may include a flexible and transparent material such as a plastic or rubber material from which extruded areas **101** may be formed as ridges, protrusions, indentations, or other tactile features arranged similar to standard or typical keyboard keys. In another example, shown generally in FIG. 1C, an overlay **100c** includes extruded areas **101c** formed as ridges outlining features of the input device. Extruded areas **101c** may provide a user with tactile location information of different keys, but not necessarily tactile motion of a conventional keyboard or motion similar to overlay **100** of FIGS. 1A and 1B. Additionally, raised circles or dots similar to Braille systems may be included.

[0028] In other examples, extruded areas **101** may include tactile features, which are distinguishable by a user, but dissimilar to standard keyboard keys. For example, an overlay may include features associated with a video editing input device (see e.g., overlay **200** shown in FIG. 2, including extruded areas **201** of varying size and shape), cursor control device, video game controller, or the like. In other examples, overlay **100** and/or extruded areas **101** may include a rigid material, which is sufficiently compliant to transfer touch from a user to the touch-sensitive screen **102** below. Overlay **100** may be manufactured, for example, through injection molding process or other suitable processes.

[0029] In another example, overlay **100** may include multiple moving elements corresponding to extruded areas **101**. For example, overlay **100** and extruded areas **101** may include rigid portions, wherein individual extruded areas **101** may move relative overlay **101** to touch or cause a touching of the underlying touch-sensitive screen **102**. The key features may further be biased (e.g., by a spring or elastic material) similar to a traditional keyboard.

[0030] In one example, touch-sensitive screen **102** includes a touch-sensitive capable LCD screen, but any suitable touch-sensitive device is contemplated. For example, any display screen designed or modified to recognize the location of a touch on or in close proximity to its surface may be used. In one example, a touch-sensitive screen may include a grid of sensing lines that determine the location of a touch by matching vertical and horizontal contacts. Another example may include electrically charged sensors around the outer edges of the display screen (or at least around displayed keyboard image **103**) to detect the amount of electrical disruption and location of the disruption on the screen. Another example may include infrared light-emitting diodes and sensors around the outer edges of the screen which create a grid that is broken by touch or close proximity. The location of the touch may then be associated with a character of the display and used by a computer system in a conventional manner to process user input.

[0031] As is known to those skilled in the art, some types of touch screens are responsive to direct physical contact with an object such as a stylus or finger, while other types of touch screens are responsive to an object in close proximity. Therefore, the use of the term “touch”, “touched”, or “touching” should be understood to not necessarily require direct physical contact between an object and the touch-sensitive screen, but merely require an act sufficient to register a location with the touch-sensitive device.

[0032] The touch-sensitive screen **102** may include various sizes. In one example, the touch-sensitive screen and

overlay correspond to a typical laptop keyboard configuration and dimensions, e.g., approximately 12-13 inches wide and approximately 4-5 inches deep. In another example, the dimensions may correspond to typical personal computer keyboard dimensions, e.g., approximately 17 inches wide by 6 inches deep, which may allow for a standard **104** key layout, a numerical key pad, and edit keys.

[0033] FIGS. 3A-3E illustrate various views of a multi-configurable keyboard according to another example. The present exemplary keyboard is similar to that of FIGS. 1A and 1B, including a touch-sensitive screen **302** and an overlay **300** including multiple extruded areas **301**. Additionally, a housing **310** is included, which may serve to house electronics of touch-sensitive screen **302** as well as to secure overlay **300** in place adjacent touch-sensitive screen **302**.

[0034] Further, as seen clearly in FIG. 3C, housing **310** may include input/output (I/O) ports for various devices, such as USB ports **320** and cable **322**, e.g., for power and communication with a computer system. Additionally, housing **310** may include openings for cooling fans **324**, which may be desired for the display and processing electronics associated therewith. Additionally, housing **310** may include legs or other members (not shown) for adjusting the height and/or tilt of the device. It will be understood that dimensions of housing **310**, overlay **300**, and the like are illustrative only and various other sizes and shapes are possible and contemplated.

[0035] FIGS. 4A-4C illustrate cross-sectional views of an extruded area **401**, a portion of a touch-sensitive screen **402**, and a finger **405** pressing the extruded area **401** to activate a portion of touch-sensitive screen **402**, according to another example. Finger **405** is used for illustrative purposes only; in other examples, a stylus or other member may be used to contact extruded area **401**. Extruded area **401** may include a concave ridge which collapses upon pressure and contacts underlying touch-sensitive screen **402**. In some examples, the underside of extruded area **401** may include a small protrusion or nub to create a more consistent and/or localized contact with touch-sensitive screen **402** when depressed. Additionally, the underside of extruded area **401** facing screen **402** may include a material optimized for contact with screen **402** (different or similar to a material used for the overlay). In further examples, extruded area **401** may include a solid member (non-concave) which merely transfers pressure through to touch-sensitive screen **402** when touched by a user.

[0036] Extruded area **401** and/or touch-sensitive screen **402** may be configured such that if the applied force is below a minimum activation force, touch-sensitive screen **402** will not be touched or activated. If the applied force exceeds the minimum activation force, then touch-sensitive screen **402** will be touched. If touch-sensitive screen **402** is touched, a character corresponding to the key label image **403** displayed under the extruded area **401** will be generated for use as input to, for example, a computer. The activation force may be similar to ranges used with conventional physical keyboards or vary therefrom.

[0037] FIG. 5A illustrates a computer system including an input device according to one example. The computer system includes a computer **501**, a display screen **505**, a mouse **503**, and a keyboard input device **504**. Keyboard input