[0019] In preferred embodiments, decorative layers **22**,**24**, **26**,**28** comprise organic decorative materials, for example, screen printed inks, epoxies, and ultraviolet curable materials. Other decorative materials, including inorganic materials, can be used, as well. The various decorative layers can be substantially opaque, translucent, or substantially transparent. In embodiments having viewing window **14**, any decoration located within the area of viewing window **14** preferably is substantially transparent so that a user can view a display (not shown) that might be mounted behind viewing window **14** or so that backlighting can be penetrate viewing window **14**. Further, decoration located within the area of viewing window **14** can be selected to have certain optical properties so that such decoration acts as an optical filter.

[0020] Layer **30** is an optional, substantially transparent layer of conductive material. Referring to **FIG. 3**, transparent conductive layer **30**, when used, preferably is configured as transparent electrodes and electrical circuit traces **32**. Transparent electrodes and traces **32** can be located anywhere on substrate **28**. For example, transparent electrodes and traces **32** can be located on decorated portions of substrate **18**, between substrate **18** and the decoration, such the decoration is viewable through transparent electrodes and traces **32**. In applications using backlighting, transparent electrodes and traces **32** can be used in backlit portions to allow the backlighting to reach the user without occlusion as would be the case if electrodes and traces **32** were made of a conventional, opaque material. Referring to **FIG. 1**, it can be particularly desirable to use transparent electrodes and traces **32** to embody reconfigurable keys **16** or other keys located in the area corresponding to viewing window **14** so that the output of a display (not shown) mounted behind viewing window **14** is visible to the user.

[0021] As discussed further below, electrical circuit components can be coupled to transparent electrodes and traces **32** to form field effect sensors, capacitive sensors, or other sensors. Transparent conductive layer **30** can be applied in various ways. For example, transparent conductive layer **30** can be deposited in a desired pattern using screen printing or micro-deposition techniques. Alternatively, transparent conductive layer **30** can be plated or applied as a thin film utilizing, for example, sputtering or thermal evaporation techniques, and then patterned and etched to yield transparent electrodes and traces **32**. Other suitable techniques, for example, spin coating, also can be used to apply transparent conductive layer **30**, as would be known to one skilled in the art.

[0022] **FIG. 2** illustrates transparent conductive layer **30** disposed onto decorative layer **28**, which ultimately is disposed on substrate **20**. Alternatively, transparent conductive layer **30** can be disposed directly onto substrate **20**. In such an embodiment, a decorative layer (not shown) optionally can be disposed on transparent conductive layer **30**. In embodiments where transparent conductive electrodes and traces **32** are disposed above or below one or more decorative layers, at least the portions of such decorative layers that are coextensive with transparent conductive layer **30** preferably are substantially transparent and can comprise material having optical filtering properties. Preferred materials for transparent conductive layer **30** include, for example, inorganic materials, such as indium tin oxide, or organic materials, such as Baytron PEDOT.

[0023] Layer **40** is a layer of conventional conductive material disposed on transparent conductive layer **30**. Preferably, conventional conductive material layer **40** is made of a polymer thick film silver or copper epoxy, such as that supplied by Acheson Colloids Company of Port Huron, Michigan. In other embodiments, this layer can be made of plated copper or other conductive material. Referring to **FIG. 4**, conventional conductive layer material **40** preferably is arranged in the form of field effect sensor electrodes **42**, electrical circuit traces **44**, and bonding pads **46**. As discussed further below, electrical circuit components, for example, integrated circuits, transistors, and resistors (not shown), can be coupled to electrodes **42** and traces **44** via bonding pads **46** to form field effect sensors, capacitive sensors, or other sensors. Preferably, such components are connected to bonding pads using conventional soldering techniques. Alternatively, such connections can be made using conductive adhesives, anisotropic adhesives, or other suitable means, as would be known to one skilled in the art. Conventional conductive material layer **40** can be applied using any suitable technique as would be known to one skilled in the art, for example, any of the techniques discussed above in connection with the application of optional transparent conductive layer **30**.

[0024] Referring to **FIGS. 2 and 5**, layer **50** is a solder mask/dielectric layer disposed on conventional conductive layer **40** and/or transparent conductive layer **30**. Layer **50** provides a solder mask, leaving exposed the portions of conductive layer **40** to which electrical circuit components are to be bonded. For example, solder mask **50** can be designed to leave exposed bonding pads **46** to facilitate bonding of integrated circuits and other electrical components to bonding pads **46**. In this manner, field effect sensors or other sensors corresponding to keys **16**,**18** can be constructed in situ on substrate **20**. Although it generally is not preferred to couple such circuit components directly to transparent conductive layer **30**, solder mask layer **50** can be designed to leave exposed portions of transparent conductive layer, as necessary, to facilitate such bonding.

[0025] Layer **50** also can provide electrical insulation between conventional conductive material layer **40** and transparent conductive layer **30** and further layers of keypad **10**. For example, a particular circuit design might require the use of crossovers **70**, as illustrated in **FIG. 7** and as would be known to one skilled in the art. If layer **50** is selected to have suitable dielectric properties, such crossovers can be applied over layer **50** and bonded at the appropriate points to conventional conductive layer **40** (and/or transparent conductive layer **30**, as necessary). In such embodiments, layer **50** insulates crossovers **70** from portions of conventional conductive layer **40** (and/or transparent conductive layer **30**, as necessary) which crossovers **70** otherwise would contact, causing the potential for short circuits.

[0026] Layer **60** is an optional dielectric layer that can be used in embodiments involving crossovers **70**. As discussed above in connection with layer **50**, optional dielectric layer **60** provides electrical insulation between electrical crossovers and conductive portions of keypad **10** to be bridged by such crossovers.

[0027] A reconfigurable display (not shown) can be disposed on the rear side of keypad **10** adjacent the area corresponding to viewing window **14**, allowing a user to