[0056] **FIG. 7** is a sectional view of a principal part of a touch panel input device according to a second embodiment of the present invention.

[0057] **FIG. 8** is a longitudinal sectional view showing a conventional touch panel input device.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0058] Referring first to **FIGS. 1 and 2**, a touch panel input device **1** according to the present embodiment adopts a so-called resistance-sensitive tablet system where uniform resistor films form conductive layers on facing surfaces. Voltages generated upon touching the external surface are processed to detects a contact position (a pressed position) between the conductive layers.

[0059] A movable plate **3** is a flexible rectangular sheet of a suitable transparent plastic material such as, for example, PET (polyethylene terephthalate). Although an arbitrary material which slightly bends toward a support substrate **4** described below is used as a material for the movable plate **3**, when a transparent material is used for showing a display part (not shown) provided inside the support substrate **4** as the present embodiment, the material therefor could include a glass substrate, an acrylic board for providing a certain degree of stiffness, and a polycarbonate (PC), a polyethersulfone (PES), and a polyimide (PI) for providing flexibility.

[0060] A transparent hard coat agent (not shown) is applied on the surface of the movable plate **3** to protect its top surface which is contacted by an operator as it serves as an input operation surface **3***a*.

[0061] The support substrate **4** is a transparent substrate formed as a rectangular thin plate with the same contour as that of the movable plate **3** using soda lime glass. Although the support substrate **4** is a substrate for supporting the rear side of the movable plate **3** to be pressed, and requires a certain degree of stiffness, it is not always necessary to form the support substrate **4** of a transparent material when the display part is not included inside the support substrate **4**. The support substrate **4** is not limited to a glass plate, but may be a plastic plate such as an acrylic substrate or a metal plate such as an aluminum or steel.

[0062] The movable plate **3** and the support substrate **4** are laminated with a slight gap therebetween. An adhesive layer **5** is interposed between individual frames **3**A and **4**A on peripheries of the movable plate **3** and the support substrate **4** to maintain the required gap. A movable conductor layer **6** and a fixed conductor layer **7**, which are made of a transparent conductor film, are fixed with an even film thickness facing each other on opposing surfaces of the movable plate **3** and the support substrate **4**, respectively. The movable conductor layer **6** and the fixed conductor layer **7** are formed with ITO (indium tin oxide) with even film thicknesses. As a consequence of this uniformity, the resistance per length is equal at individual positions on the conductor layers.

[0063] Dot spacers (not shown) made of insulating synthetic resin are fixed at a predetermined spacing on the fixed conductor layer **7**. These dot spacers prevent the movable conductor layer **6** and the fixed conductor layer **7** from accidentally being brought into contact with each other when the hand of an operator unintentionally touches a part of the input operation surface **3** a. The dot spacers have a height that is less than the gap between the movable conductor layer **6** and the fixed conductor layer **7** separated by the adhesive layer **5**.

[0064] An X impressing side leader electrode **8***a*, and an X ground side leader electrode **8***b* connected with the movable conductor layer **6** are printed in the Y direction on opposed edges of the movable conductor layer **6** on the rear surface of the movable plate **3**. The X impressing side leader electrode **8***a*, and the X ground side leader electrode **8***b* are transparent conductor thin plates in a stripe shape made of silver. Leads **12***a* and **12***b* on the rear surface of the movable plate **3** for the X impressing side leader electrode **8***a* and the X ground side leader electrode **8***b* are led out to an external connector **3***b* of the movable plate **3**.

[0065] In the same way, a Y ground side leader electrode **9***b* electrically connected with the fixed conductor layer **7** is printed on one edge of the fixed conductor layer **7** in a Y direction orthogonal to the X direction in **FIG. 1** on the surface of the support substrate **4** facing the movable plate **3**. The Y ground side leader electrode **9***b* is a transparent conductor thin plate in a stripe shape made of silver. The Y ground side leader electrode **9***b* is led out to the external connector **3***b* of the movable plate **3** by a lead **12***d* on the rear surface of the movable plate **3**. The lead **12***d* is electrically connected to the surface of the Y ground side leader electrode **9***b* using a conductive adhesive.

[0066] A Y impressing side leader electrode **9***a* electrically connected with the fixed conductor layer **7** is formed on the other edge opposite the edge of the fixed conductor layer **7** on which the Y ground side leader electrode **9***b* is printed in the X direction. Because the Y impressing side leader electrode **9***a* serves as one drive electrode **2***a* on the piezoelectric substrate **2**, the drive electrode **2***a* is fixed using conductive adhesive along the other edge of the fixed conductor layer **7**. The Y impressing side leader electrode **9***a* electrically connected with the fixed conductor layer **7** is formed when the piezoelectric substrate **2** is fixed to the support substrate **4**.

[0067] Referring now also to **FIG. 3**, the Y impressing side leader electrode **9***a* (the one drive electrode **2***a*) is bent back toward the front side on one end in the lengthwise direction of the piezoelectric substrate **2**. The Y impressing side leader electrode **9***a* is electrically connected to a lead **12***c* on the rear surface of the opposing movable plate **3** using conductive adhesive, and is led out to the external connector **3***b*.

[0068] The other drive electrode **2***b* of the piezoelectric substrate **2** is electrically connected to a lead **12***e* on the rear surface of the opposing movable plate **3** using conductive adhesive. The lead **12***e* is led out to the external connector **3***b* in the same way as the other leads.

[0069] The individual leader electrodes **8***a*, **8***b*, **9***a*, and **9***b*, and the drive electrode **2***b* which are led out to the external connector **3***b* through the leads **12***a*, **12***b*, **12***c*, **12***d*, and **12***e*, are electrically connected to external circuits including a pressure detecting circuit, and the drive circuits **10** and **11** described below through a conventional connector (not shown) connected to the external connector **3***b*.