first and second transparent resistive films **601** and **602** come in contact with each other. By reading a value indicated by the A/D converter **609** in this state, an electric potential at the contact point indicated by the arrow mark b on the second resistor **604** can be detected. Since the potential is linearly distributed on the second resistor **604** ranging from a voltage V (volt) to 0 (volt), the obtained potential tells distance of the point from the electrode c in the direction of the arrow mark a. When the direction is aligned to that of an x axis of the coordinate system, the obtained value represents an x coordinate value.

[**0022**] **FIG. 5** shows a second construction of a state of the input coordinate sensor associated with the state of the touch panel in **FIG. 2**. In response to depression at a particular point on the touch panel in the state shown in **FIG. 4**, the sensor controls its switches to enter a next state.

[**0023**] As shown in **FIG. 4**, the control operation of the switches causes a linear potential to be linearly distributed on the first resistor **603** ranging from a voltage V (volt) to 0 (volt) in a direction as designated by an arrow mark d.

[**0024**] In **FIG. 5**, an arrow mark b indicates a point (a contact point) between the first and second transparent resistive films **601** and **602**. By sensing a value resultant from the A/D converter **610** in this situation, potential at the contact point indicated by the arrow mark b on the first resistor **603** can be detected. Also distributed on the first resistor **603** is a linear potential ranging from a voltage V (volt) to 0 (volt), the potential represents distance of the point from the electrode e in the direction of the arrow mark d. By aligning the direction to that of a y axis of the coordinate system, the obtained value represents a y coordinate value.

[**0025**] In the prior-art touch pen using transparent resistive films, a pair of x and y coordinates of the point touched or depressed by a pen or a fingertip can be sensed through the operations shown in **FIGS. 4 and 5**.

[**0026**] **FIGS. 6A and 6B** show cross-sectional views of an embodiment of a prior-art touch panel of transparent resistive film type. When the dot spacers **55** are arranged with a smaller interval therebetween as shown in **FIG. 6A**, distance (an area associated with depression on the touch panel) between supporting points (dot spacers) of the distorted films **51** and **52** is reduced. That is, stronger pressure is required to bring the first and second transparent resistive film **52** and **53** into contact with each other. When the dot spacers **55** are disposed with a larger interval therebetween as shown in **FIG. 6**B, distance (an area corresponding to depression on the touch panel) between supporting points (dot spacers) of the depressed films **51** and **52** is enlarged. This indicates that relatively weaker pressure is necessary for the film **52** to come contact with the second film **52**.

[**0027**] As above, in the touch panel using transparent resistive films of the prior art, load necessary to establish the contact state between the upper and lower transparent resistive films is adjusted according to the interval between the dot spacers.

[**0028**] For example, in a touch panel exclusively used with a pen, the dot spacer interval is relatively smaller such that stronger pressure is required to bring the upper and lower films into contact with each other. In operation, even when other than a pen, for example, a part of the user such as a palm touches the touch panel, an erroneous operation does not easily take place. That is, the palm is softer than the pen and hence comes into contact with the touch panel (the transparent film) through a wider area. Load thereof imposed on the touch panel is applied not at one point but at an area in a distributed manner. Therefore, the load is relatively weaker and does not easily bring the upper transparent resistive film into contact with the lower transparent resistive film. Consequently, the touch panel can continue normal operation without errors.

[**0029**] In a touch panel dedicatedly used with fingers, the dot spacer interval is relatively wider. That is, less strong pressure is necessary to bring the upper and lower films into contact with each other. As described above, when compared with a pen input, the finger input is softer and its load is distributed. Therefore, to sense the contact state between the upper and lower transparent resistive films under weaker pressure of a finger, the dot spacers are disposed with a relatively wider interval therebetween.

[**0030**] However, in the touch panels using transparent resistive films shown in the prior art examples, the dot spacers are arranged with an intermediate interval therebetween so that the touch panel is used with a pen and fingers. Therefore, in a pen-input mode, when a part of a hand mistakenly touches the touch panel, an erroneous input easily takes place. Since the dot spacer interval is smaller than that of a touch panel for use with fingers, higher pressure of a finger is required for recognition of the input operation.

SUMMARY OF THE INVENTION

[**0031**] It is therefore an object of the present invention to provide a touch panel input device capable of sensing input operation using a pen and a fingertip.

[**0032**] In accordance with the present invention, there is provided a touch panel input device, comprising a first touch panel and a second touch panel, the first touch panel being laminated onto said second touch panel.

[**0033**] In accordance with the present invention, the first touch panel comprises a first transparent film, a second transparent film, a first transparent resistive film arranged on a lower surface of said first transparent film, a second transparent resistive film arranged on an upper surface of said second transparent film, and first dot spacers arranged between said first and second transparent resistive films, said first transparent resistive film opposing said second transparent resistive film. It is preferable that first dot spacers is arranged with an equal interval between the first and second transparent resistive films.

[**0034**] In accordance with the present invention, the second touch panel comprises a third transparent resistive film arranged on a lower surface of said second transparent film, a glass substrate, a fourth transparent resistive film arranged on an upper surface of said glass substrate, and second dot spacers arranged with an equal interval between said third and fourth transparent resistive films, said third transparent resistive film opposing said fourth transparent resistive film.

[**0035**] In accordance with the present invention, the second touch panel comprises a third transparent film, a third transparent resistive film arranged on a lower surface of said third transparent film, a glass substrate, a fourth transparent