

appropriate operation of a finger. The user conducts again a desired operation using the magnified keyboard image. The controller **23** acquires coordinates of a contact point from layer **a** of the touch panel **21**.

[0101] According to the coordinates thus obtained, the controller **23** identifies a key pushed in the virtual keyboard of **FIG. 16** and inputs a character finally recognized to the device. When the character is completely inputted, the display section **24** again displays the image of **FIG. 14**. Processing goes to a wait state for a next input operation by a fingertip or a pen.

[0102] Second embodiment

[0103] Description will be given of a second embodiment in accordance with the present invention. It is assumed that the second embodiment includes a configuration similar to that of the first embodiment of the present invention.

[0104] The second embodiment is a handwritten image input device using a touch panel. The touch panel input device of the present invention can determine a finger input operation and a pen input operation as described in conjunction with the first embodiment.

[0105] When it is determined that a pen input operation is conducted, the touch panel input device of the second embodiment receives, like the first embodiment, coordinates of a contact point of layer **B** of the touch panel shown in **FIG. 7**. In the second embodiment of the touch panel input device, points corresponding to the coordinates received from the touch panel **21** are drawn on the display section **24**. Therefore, by drawing a picture on the touch panel **21** by a pen as shown in **FIG. 17**, an image of the handwritten picture can be displayed on the display section **24**.

[0106] When the touch panel input device of the second embodiment determines that data is input by a fingertip, coordinates are received from layer **A** of the touch panel shown in **FIG. 7** as in the first embodiment. In the operation, the second embodiment clears, on the display section **24**, an area in a circle with a radius of about 5 mm centered on a point corresponding to the received coordinates.

[0107] Resultantly, by moving the finger(tip) on the touch panel, the displayed image can be erased on the display section **24** as shown in **FIG. 18**. In an area within a dotted line indicated by **Q** in **FIG. 18**, the displayed images have been erased by moving the fingertip.

[0108] That is, a desired picture can be drawn by a pen on the display section **24**. When it is desired to erase a section of the picture, the user need only move the fingertip on the display section along the desired section to be erased. The touch panel input device can be therefore used as an image input device which can be uses as a blackboard.

[0109] Third embodiment

[0110] Description will now be given of a third embodiment in accordance with the present invention.

[0111] **FIG. 19** shows in a cross-sectional view an outline of structure of a third embodiment of a touch panel input device in accordance with the present invention.

[0112] The structure of **FIG. 19** includes a touch panel input device **200** as the third embodiment in accordance with

the present invention. Like the first and second embodiments, the third embodiment mainly includes two layers, i.e., layers **A** and **B**.

[0113] The third embodiment differs from the first and second embodiments in that the second transparent film **14** shown in **FIG. 7** is substituted for two independent transparent films **14a** and **14b**.

[0114] Therefore, layers **A** and **B** are electrically and/or structurally independent completely touch panels. By simply attaching two touch panels to each other, there can be implemented a device similar to the touch panels of the first and second embodiments.

[0115] For the touch panel of layer **B** of **FIG. 19**, a general touch panel of the prior art is available. In the touch panel of layer **A** in **FIG. 19**, only the material of the bottom section is changed from glass to a film. Consequently, a touch panel production process of the prior art can be directly used and hence the initial cost can be minimized and productivity can be increased.

[0116] The embodiments described above are preferred embodiments of the present invention and can be changed and modified within a scope of the present invention.

[0117] As can be understood from the description, in the touch panel input device of the present invention including two touch panels attached onto each other, when a position is inputted by a finger(tip) or a pen, information of the position indicated by the fingertip or a pen can be appropriately detected in any situation.

[0118] In the touch panel input device of the present invention, when a position is inputted, it is possible to identify automatically that the input operation is conducted by a finger or a pen according to pressure received. Therefore, even if an erroneous input is caused, for example, by touching the touch panel by a hand in a pen input mode, the device can conduct control operation so that the erroneous input is appropriately rejected.

[0119] For the touch panel input device of the present invention, the touch panel production process of the prior art can be employed as a production process. This lowers the initial cost and improves productivity.

[0120] While the present invention has been described with reference to the particular illustrative embodiments, it is not to be restricted by those embodiments but only by the appended claims. It is to be appreciated that those skilled in the art can change or modify the embodiments without departing from the scope and spirit of the present invention.

What is claimed is:

1. A touch panel input device, comprising:
 - a first touch panel; and
 - a second touch panel,
 said first touch panel being laminated onto said second touch panel.
2. A touch panel input device, comprising:
 - a first touch panel; and
 - a second touch panel,
 said first touch panel comprises: