

In FIG. 52A, cylinder shapes shown with the broken lines form braille elements, and are portions in which the muscular sheet portion 54A raise in the convex shape by reflecting the shape of each of the circular shaped electrodes 51 which is not shown.

[0428] The variable sheet device 220 for braille shown in FIG. 52B includes the display unit 29 and layered input detection unit 45 and variable sheet 180A for braille in this order on the display unit 29. For example, the variable sheet 180A for braille includes the base film 181 having the wiring pattern group 57, the muscular sheet portion 54A bonded on this base film 181, the electrode 51 provided on the rear surface side of this muscular sheet portion 54A and the base panel 186 on the electrode 51, which are layered. It should be noted that the display unit 29 and the input detection unit 45 may be omitted.

[0429] Also in this embodiment, with reference to the driving example shown in FIG. 35, the shape presentation instruction for executing the shape presentation of the braille element is supplied to the driving power supply 55A from the high rank CPU 32. This is a case (OFF) in which there is no the shape presentation instruction. In this case, the change of the convex and concave shape is not seen on the operation screen which the operator touches by his or her finger or the like.

[0430] The braille variable sheet device 220 shown in FIG. 52C indicates a case (ON) in which there is the shape presentation instruction from the high rank CPU 32 to the driving power supply 55A. In this case, the convex and concave shape appears on the operation screen which the operator touches. In this case, a side surface portion of a housing of the variable sheet device 220 for braille which the operator touches changes to the cylindrical protrusive (convex) shape. With respect to the braille appearance control for changing the convex portion constituting the braille block to the convex shape, it may employ the control method explained in the ninth embodiment. Thus, it becomes possible to provide the braille-talkable variable sheet device 220 for braille in which the braille block changes and appears based on the control information as compared with a fixation type braille block of the past system.

[0431] Although, in the above-mentioned first to eleventh embodiments, the touch-sensitive sheet members having the individual function respectively have been described, they are not limited to those; any combination of the touch-sensitive sheet members having the individual function respectively may be used. For example, there may be used a combination of the first touch-sensitive sheet member in which the sense-of-touch-representing unit forms the apertures p1 to p25 for presenting a sense of touch each having a predetermined size aperture diameter and being perforated at a predetermined position in the base member 1 and the medium-supplying unit has the air-circulation unit 3 for sending air to the apertures p1 to p25 or for taking in air from the aperture p1 to p25; the second touch-sensitive sheet member in which the sense-of-touch-representing unit forms bag portions q1 to q25 for presenting a sense of touch each having a predetermined size and being arranged at a predetermined position of the base member 11 and the medium-supplying unit has the ventilation unit for sending air to the bag portions q1 to q25; and the third touch-sensitive sheet member in which the sense-of-touch-representing unit includes the electric conductive element bag portions E1 to E25, the electrically conductive rubber 82 or the like for presenting a sense of touch each

having a predetermined sized electrodes 51, 52 and being arranged at a predetermined position of the insulated and transparent member and the medium-supplying unit has the driving power supply 55A for supplying the driving voltage V_0 to the electrodes 51, 52 of the element bag portions E1 to E25, the electrically conductive rubber 182 or the like.

[0432] The present application is preferably applied to an electronic apparatus of a digital camera, a video camera, a mobile phone, a mobile terminal device, a desk-top type PC, a note type PC, a braille block device, an automatic teller machine or the like including a touch-sensitive input function for presenting a sense of touch when touching an icon screen with the operator's finger or the like.

[0433] It should be understood by those skilled in the art that various modifications, combinations, sub-combinations and alterations may occur depending on design requirements and other factors insofar as they are within the scope of the appended claims or the equivalents thereof.

[0434] It should be understood that various changes and modifications to the presently preferred embodiments described herein will be apparent to those skilled in the art. Such changes and modifications can be made without departing from the spirit and scope of the present subject matter and without diminishing its intended advantages. It is therefore intended that such changes and modifications be covered by the appended claims.

The invention is claimed as follows:

1. A touch-sensitive sheet member comprising:

a body having a predetermined hardness and a sheet shape; a sense-of-touch-representing unit that represents a sense of touch, the sense-of-touch-representing unit having a predetermined size and being arranged at positions of the body or at a predetermined position of the body; and a medium-supplying unit that supplies a medium to the sense-of-touch-representing unit.

2. The touch-sensitive sheet member according to claim 1, wherein the sense-of-touch-representing unit contains an aperture having an aperture diameter of a predetermined size, the aperture being perforated at a predetermined position of the body and being used for representing the sense of touch; and

the medium-supplying unit includes an air-circulating unit that sends air to the aperture or takes in air from the aperture.

3. The touch-sensitive sheet member according to claim 1, wherein the sense-of-touch-representing unit includes a bag portion that represents the sense of touch, the bag portion having a predetermined size and being arranged at a predetermined position of the body, and

the medium-supplying unit includes a ventilation unit that ventilates air to the bag portion.

4. The touch-sensitive sheet member according to claim 1, wherein the sense-of-touch-representing unit includes conductive polymer material that represents the sense of touch, the polymer material having predetermined sized electrodes and being arranged at a predetermined position of the body; and

the medium-supplying unit includes a power supply unit that applies a driving voltage to the electrodes of the polymer material.

5. An input device that inputs information by any one of a slide operation and a press operation of an operation body, the input device comprising:

a display unit having an operation surface;