electrode **52** from the upward/downward directions. A predetermined driving voltage is applied between the electrodes **51**, **52**. As the electrodes **51**, **52**, a transparent ITO film is used. It should be noted that members having the same name and numeral as those used in the touch-sensitive sheet member **150** have the same functions, so that the explanation thereof will be omitted.

[0314] In the touch-sensitive sheet member **153** shown in FIG. **34**B, the electrode **51** and the electrode **52** are also connected with the driving power supply which supplies the driving voltage to the electrodes **51**, **52**. The operation principle of this element muscle portion **543** is similar to that of the touch-sensitive sheet member **150**, so that the explanation thereof will be omitted.

[0315] The touch-sensitive sheet member **153** is constituted in this manner so that when driving power supply **55** supplies the driving voltage to the electrodes **51**, **52** arranged in the upward/downward directions of each of the element muscle portion **543**, each of the element muscle portions **543** may function as an electric conductive polymer actuator in which the expansion and contraction motion such as the swelling in the mortar shape and the contraction in a concave shape is allowed. Consequently, in the spots of or the predetermined positions of the base frame portion **533**, the element muscle portion **543** may present the sense of touch for giving the concave and convex feeling with respect to the operator's finger **30***a* by the protuberant shape depending on the pressure change of the element muscle portion **543** or by the original shape without supplying the driving voltage. Thus, it becomes possible to provide the input device **500** or the like to which the touch-sensitive sheet member **153** is applied.

Embodiment 6

[0316] FIGS. **35**A, **35**B and **35**C show a configuration of a touch-sensitive sheet member **160** as a sixth embodiment and driving examples thereof. In this embodiment, the CPU **32** for controlling the touch-sensitive sheet member **160** for presenting a sense of touch controls a driving power supply **55**A to supply the driving voltage to a muscular sheet portion **54**A of the touch-sensitive sheet member **160** corresponding to the image contents displayed on the display unit **29**, so that the muscular sheet portion **54**A is available on the electrode-forming positions corresponding to the image contents.

[0317] The touch-sensitive sheet member **160** shown in FIG. **35**A includes a plurality of electrodes **51** for upper portion, a plurality of electrodes **52** for lower portion and the muscular sheet portion **54**A. The muscular sheet portion **54**A constitutes the base member and the sense-of-touch-representing unit. The muscular sheet portion **54**A is constituted such that the convex and concave shapes are built at the positions corresponding to a plurality of operation key elements of the icon images of the operation screen. As the muscular sheet portion **54**A, a polymer material (artificial muscle) having transparency and also electric conductivity is used. The polymer material includes a flexible and strong electric conductive Embra (trademark) film and an electric conductive gel polymer which is largely swellable in good solvent. An operation voltage of each of them is around 1.5V.

[0318] The plurality of electrodes **51** each having a predetermined area are provided at the upper portion of the muscular sheet portion **54**A. The plurality of electrodes **52** each having an area, which face to the predetermined electrodes **51**, are provided at the lower portion of the muscular sheet portion **54**A. In a case in which the touch-sensitive sheet member **160** of the facing electrode structure is constituted, the muscular sheet portion **54**A is sandwiched between the electrode **51** of a predetermined position and the electrode **52** of the predetermined position from the upward/downward directions. A predetermined driving voltage is applied between the electrodes **51**, **52**, similarly as the fifth embodiment. Each of the electrodes **51**, **52** is divided individually for every plural operation key element, which is different from the fifth embodiment. AS the electrodes **51**, **52**, a transparent ITO film is used. According to the operation principle of this muscular sheet portion **54**A, the expansion and contraction motion thereof is obtained for every operation key element by exchanging polarity of the DC voltage which is applied to the respective electrodes **51**, **52**.

[0319] In the touch-sensitive sheet member **160** shown in FIG. **35**B, the electrode **51** and electrode **52** are connected with the driving power supply **55**A which supplies the driving voltage (medium) is supplied between the electrode **51** and the corresponding electrode **52**. As the driving power supply **55**A, a power supply unit including a direct-current power supply and an electrode selection function is used. The driving power supply **55**A outputs ±DC voltage of around 1.0 to 3.0V. For example, when the voltage of plus polarity is applied to the electrode **51** and the voltage of minus polarity is applied to the electrode **52** from the driving power supply **55**A, minus ions are taken into the muscular sheet portion **54**A, so that the muscular sheet portion **54**A swells. On the other hand, when the voltage of minus polarity is applied to the electrodes **51** and the voltage of plus polarity is applied to the electrodes **52** from the driving power supply **55**A, minus ions are taken out of the muscular sheet portion **54**A, so that the muscular sheet portion **54**A contracts.

[0320] The touch-sensitive sheet member **160** as the sixth embodiment is constituted in this manner and when the driving voltage is individually supplied to the respective electrodes **51**, **52** arranged on the upward/downward directions of the muscular sheet portion **54**A from the driving power supply **55**A, the muscular sheet portion **54**A may function as an electric conductive polymer actuator in which the expansion and contraction motion of the swelling, the contraction or the like is available for every operation key element. Consequently, in the spots of or at the predetermined positions of the touch-sensitive sheet member **160**, the muscular sheet portion **54**A may present the sense of touch for giving the concave and convex feeling with respect to the operator's finger **30***a* by the protuberant shape depending on the pressure change of the muscular sheet portion **54**A or by the original shape without supplying the driving voltage.

[0321] Although, in the above-mentioned embodiment, a case where the electrode **51** and the electrode **52** are faced each other has been described, they are not limited to this; as a touch-sensitive sheet member **160**A shown in FIG. **35**C, the electrode **51** and the electrode **52** may be arranged in parallel by keeping a predetermined distance on one side surface of the muscular sheet portion **54**A, for example, on the rear surface of the muscular sheet portion **54**A. Even for such a constitution, the muscular sheet portion **54**A on the upper portion of the electrode **51** and the electrode **52** may present the sense of touch for giving the concave and convex feeling with respect to the operator's finger **30***a* by the protuberant shape depending on the pressure change of the muscular sheet portion **54**A or by the original shape without supplying the driving voltage. Portions of double-dashed lines shown in