flective sheet **2**. Therefore, the lights Ln-and Rn are never detected by the CCDs **13**L and **13**R of the optical units **1**L and **1**R, respectively.

[**0094**] Thereby, the points of weak optical intensity (dark points) are generated in the positions DnL and DnR on the respective CCDs **13**L and **13**R, and the first and second waveform data corresponding to the intensity distributions of the reflected lights in the direction parallel to the panel surface **10***a* are stored in the waveform memories **28**L and **28**R, respectively. Based on the first and second waveform data, the peak detectors **25**L and **25**R detect the positions DnL and DnR of the dark points on the respective CCDs **13**L and **13**R, and the x-y computing element **29** computes the coordinate value (x, y) of the position where the lights Ln and Rn are interrupted. Data of thus obtained coordinate value (x, y) is inputted to the computer **14** via the interface part **26**, and an operation corresponding to the indicated position is performed.

[**0095**] Next, a description will be given of the filter **4** provided in the optical unit shown in **FIG. 2**, which filter is the most important element of the present invention.

[**0096**] In the above-described coordinate input and detection device according to the present invention, in order to increase the detection accuracy of the coordinate value of an input position, it is required, at least, to make as thin as possible the thickness of each of the sector-shaped light beams projected parallel to the panel surface **10***a* of the touch panel **10** from the optical units **1**L and **1**R, respectively, and to have the amount of light of each light beam distributed uniformly in the direction in which the light beam spreads out in the sector shape. However, as previously described, since the amount of light of the light beam projected from the light source **3** shown in **FIG. 1** is large in the center portion of the light beam spreading in the sector shape and decreases as the measurement point of the amount of light approaches each side of the light beam. Therefore, the filter **4** is employed to correct the distribution of the amount of light of the light beam.

[**0097**] **FIG. 9** is a diagram showing a shape and a characteristic of a first embodiment of the filter **4**.

[**0098**] The filter **4** is formed of a single long thin resin film whose optical transmission rate is 25%, and, as shown in **FIG. 2**, is disposed, in the optical path of the light beam made incident on the light receiving part **7**, in the direction perpendicular to the traveling direction-of the light beam so that the light beam spread out in a longitudinal direction of the filter **4**. The filter **4** has wedge-like notches **4***b* protruding from the respective longitudinal end portions toward the center portion thereof.

[**0099**] Therefore, although a portion a of the filter **4** without any notches **4***b* has a transmission rate of 25%, the transmission rate of each portion b including the notch **4***b* increases as a measurement point of the transmission rate approaches each longitudinal end portion of the filter **4** so as to reach almost 100% at each side thereof.

[**0100**] Thus, if a light beam is made incident on the filter **4** so that its amount of light is distributed uniformly all over the filter **4**, the light beam passing through the filter **4** has its amount of light distributed in the Y-axial direction with a characteristic indicated by a curve **31** in **FIG. 9**.

[**0101**] However, an actual light beam made incident on the filter **4** does not have its amount of light distributed uniformly in the Y-axial direction, and therefore, the distribution of the amount of light has a characteristic indicated by the curve **51** in **FIG. 9** as in the conventional example described with reference to **FIG. 1**. Therefore, if the light beam having such a distribution of the amount of light passes through the filter **4** of this embodiment, due to the transmission rate distribution of the filter **4**, the distribution of the amount of light is averaged as indicated by a broken curve **32** in **FIG. 9** to be almost uniform in the Y-axial direction.

[**0102**] Next, a description will be given, with reference to **FIGS. 10A through 13**, of a second embodiment of the filter **4**.

[**0103**] In this embodiment, as shown in **FIGS. 10A and 10B**, first and second filters **41** and **42** having different shapes and optical transmission rates are superposed on each other to form the filter **4** shown in **FIG. 10C**.

[**0104**] The first filter **41** of **FIG. 10A** has an optical transmission rate of 25%, and includes deep wedge-like notches **41***a* protruding from the respective longitudinal end portions toward the center portion thereof. On the other hand, the second filter **42** of **FIG. 10B** has an optical transmission rate of 50%, and includes shallow wedge-like notches **42***a* protruding from the respective longitudinal end portions toward the center portion thereof.

[**0105**] **FIG. 10C** shows a state in which the filter **4** is formed by superposing the first and second filters **41** and **42**.

[**0106**] Therefore, the transmission rate of a portion **4***a* of the filter **4** where the first and second filters **41** and **42** are superposed is 12.5% (25%×50%=12.5%), the transmission rate of each portion **4***b* formed only of the first filter **41** is 25%, the transmission rate of each portion **4***c* formed only of the second filter **42** is 50%, and the transmission rate of each portion **4***d* formed only of the notches is 100%.

[**0107**] Thus, if a light beam is made incident on the filter **4** so that its amount of light is distributed uniformly all over the filter **4**, the light beam passing through the filter **4** has its amount of light distributed in the Y-axial direction with a characteristic indicated by a curve **33** in **FIG. 11**.

[**0108**] However, an actual light beam made incident on the filter **4** does not have its amount of light distributed uniformly in the Y-axial direction, and therefore, the distribution of the amount of light has the characteristic indicated by the curve **51** in **FIG. 11** as in the conventional example described with reference to **FIG. 1**. Therefore, if the light beam having-such a distribution of the amount of light passes through the filter **4** of this embodiment, due to the transmission rate distribution of the filter **4**, the distribution of the amount of light is averaged as indicated by a broken curve **34** in **FIG. 11** to be almost uniform in the Y-axial direction.

[**0109**] Thus, by a combination of a plurality of filters having different optical transmission rates and notch shapes, a filter having a desired transmission rate distribution can be made with more ease.

[**0110**] In order to attach the filter **4** to a predetermined position in each of the optical units **1**L and **1**R, as shown in **FIGS. 12A and 12B**, an adhesion portion **41***c* is provided on