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Data Input Device

The invention relates to a data input device having an input pad and an integrated chip card reader.

Chip cards are increasingly used for authorization and identity checks, in particular in financial transactions, in the public health sector, and in Internet applications. Chip cards contain a microprocessor and a data memory managed by the microprocessor and being able to store, for example, a PIN code in a protected area. The security and encoding functions which can be performed with the aid of such chip cards may be perfected by an additional input of personal data. For the handling of transactions made secure by a chip card, data processing devices having access to remote networks, in particular via the Internet, may be used. Suitable chip card readers are available for the widely used data processing devices of the PC type. It is, however, not advisable to enter additional personal data via the keyboard because the data entered in this way may be intercepted and therefore abused.

The invention provides a data input device in which a chip card reader is combined spatially and functionally with an input pad for entering personal data to form an ergonomically favorable unit. In accordance with the invention, the input pad is arranged on a desk area which is obliquely inclined to the bottom of the device; a receiving slot for the chip card is arranged behind the input pad, when looking towards the latter, and is inclined at an angle to the bottom of the device, the angle being larger than the angle of inclination of the desk area. The obliquely inclined desk area is ideally suited for receiving operating and display elements. The receiving slot for the chip card, which is steeper in comparison with the desk area, on the one hand is conducive to the insertion of the chip card

and, on the other, keeps its portion protruding from the receiving slot in the field of vision of the user at a favorable angle. In addition, the effects produced by friction and lever action when the chip card is removed from the receiving slot are influenced favorably, with the result that a stable position of the data input device is ensured even without it having a great mass.

In the preferred embodiment of the data input device, a weight body is arranged in the space remaining between the bottom and the receiving slot, in particular a metal rod which is inserted into a receiving space arranged at right angles to the direction of insertion of the receiving slot and directly above the bottom. In combination with the most favorable angle of inclination of the receiving slot, good stability of the device with minimum weight is attained in this way.

Depending on the application, the input pad comprises keys, display elements, lettering, operating elements and/or a fingerprint sensor. When using a keyboard (keypad), the desk area is preferably arranged to be less steep than when a fingerprint sensor is used.

Further advantages and features of the invention will be apparent from the following description of two embodiments with reference to the drawings in which:

Figure 1 shows a plan view of a first embodiment of the data input device;

Figure 2 shows a section taken along the line II-II in Figure 1;

Figure 3 shows a front/top view of a second embodiment of the data input device; and

Figure 4 shows a side view of the data input device illustrated in Figure 3.

In the embodiment shown in Figures 1 and 2 the data input device has a generally desk-shaped housing having a desk area 10 which is obliquely inclined in relation to the bottom of the device and a curved housing body 12 which

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adjoins the upper rear end of this desk area 10. An input pad comprising a group of keys 14 is arranged on the desk area 10. Above the keys 14 a surface area remains on the desk area 10 for the arrangement of lettering, a display means, further operating elements and the like. A receiving slot 16 for a chip card 18 is arranged in the curved housing body 12. The receiving slot 16 extends in the housing body 12 as far as under the desk area 10. With the chip card 18 in the inserted condition, it protrudes from the receiving slot 16 by approximately half its length. Externally adjoining the receiving slot 16 is a structure 20 formed integrally with the housing body 12 and forming a flat supporting surface 22 for the chip card 18. As can be seen in Figure 2, the desk area 10 forms an acute angle of inclination of approximately 20 degrees with the bottom of the device. The receiving slot 16 is also arranged at an acute angle of inclination in relation to the bottom of the device, this angle however being approximately twice as large as that of the desk area 10. Inside the housing body 16 and directly above the bottom of the device an approximately cylindrical receiving space is defined by a wall 24. A weight body in the form of a metal rod 26 is inserted into the receiving space defined by the wall at right angles to the direction of insertion of the receiving slot 16. The remaining interior space of the data input device is utilized for accommodating electronic components such as circuit cards with electronic component parts and the like. The data input device may be coupled to a data processing device (PC) via a cable or in a wireless fashion by way of radio or infrared transmission.

In the embodiment of the data input device as shown in Figures 3 and 4 a generally hemispherical housing 30 is provided. A desk area 32 which is obliquely inclined to the bottom of the housing 30 is formed on the upper front side of the housing by a planar flat. This desk area 32 forms an input pad in which a fingerprint sensor 34 is arranged. As in the previously described embodiment, a receiving slot 36 for a chip card is provided. The receiving slot 36 is adjoined by a supporting surface 40 for the chip card which is formed by a support structure 38. The desk area 32 is inclined at an angle of approximately 30 degrees in relation to the bottom of the device. The receiving slot 36 for the chip

card is likewise obliquely inclined in relation to the bottom of the device, but at an angle approximately twice as large amounting to approximately 60 degrees.

The internal design of this embodiment of the data input device is comparable with that of the previously described embodiment and will therefore not be explained in more detail.

In both embodiments a chip card reader is combined with an input pad in an ergonomically favorable data input device having an appealing shape.

Claims

1. A data input device having an input pad and an integrated chip card reader, characterized in that the input pad is arranged on a desk area which is obliquely inclined to the bottom of the device, a receiving slot for the chip card being arranged behind the input pad, when looking towards the latter, and is inclined at an angle to the bottom of the device, the angle being larger than the angle of inclination of the desk area.

2. The data input device according to claim 1, characterized in that the receiving slot extends as far as under the desk area.

3. The data input device according to claim 1 or 2, characterized in that a weight body is arranged in the space remaining between the bottom and the receiving slot.

4. The data input device according to claim 1, characterized in that the weight body is formed by a metal rod which is inserted into a receiving space arranged at right angles to the direction of insertion of the receiving slot and directly above the bottom.

5. The data input device according to any of the preceding claims, characterized in that a supporting surface is formed for the chip card, which externally adjoins the receiving slot.

6. The data input device according to claim 5, characterized in that the chip card, when inserted, protrudes beyond the supporting surface.

7. The data input device according to claim 5 or 6, characterized in that the chip card, when inserted, protrudes from the receiving slot by approximately half of its length.

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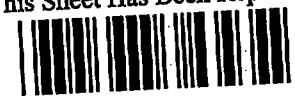

8. The data input device according to any of the claims 5 to 7, characterized in that the supporting surface protrudes beyond the rear side of the device facing away from the desk area.

9. The data input device according to any of the preceding claims, characterized in that the angle of inclination of the receiving slot is approximately twice as large as the one of the desk area.

10. The data input device according to any of the preceding claims, characterized in that the input pad includes a keypad.

11. The data input device according to claim 10, characterized in that the angle of inclination of the desk area amounts to approximately 20° and that of the receiving slot to approximately 40°.

12. The data input device according to any of the preceding claims, characterized in that the input pad includes a fingerprint sensor.

13. The data input device according to claim 12, characterized in that the angle of inclination of the desk area amounts to approximately 30° and that of the receiving slot to approximately 60°.

14. The data input device according to any of the preceding claims, characterized in that the desk area is formed so as to be flat and so as to adjoin rounded housing surfaces.

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