

FIG. 1

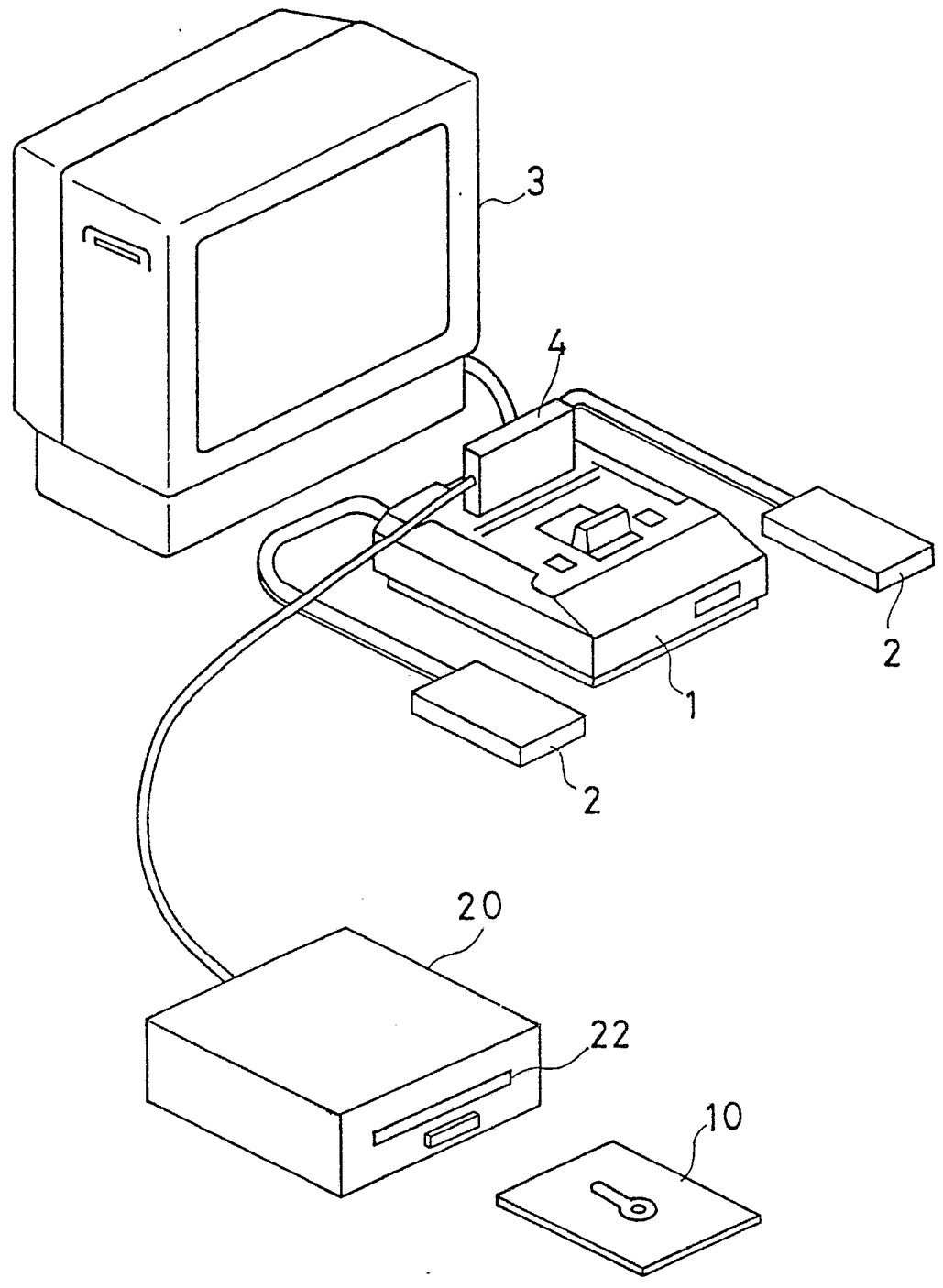


FIG. 2A

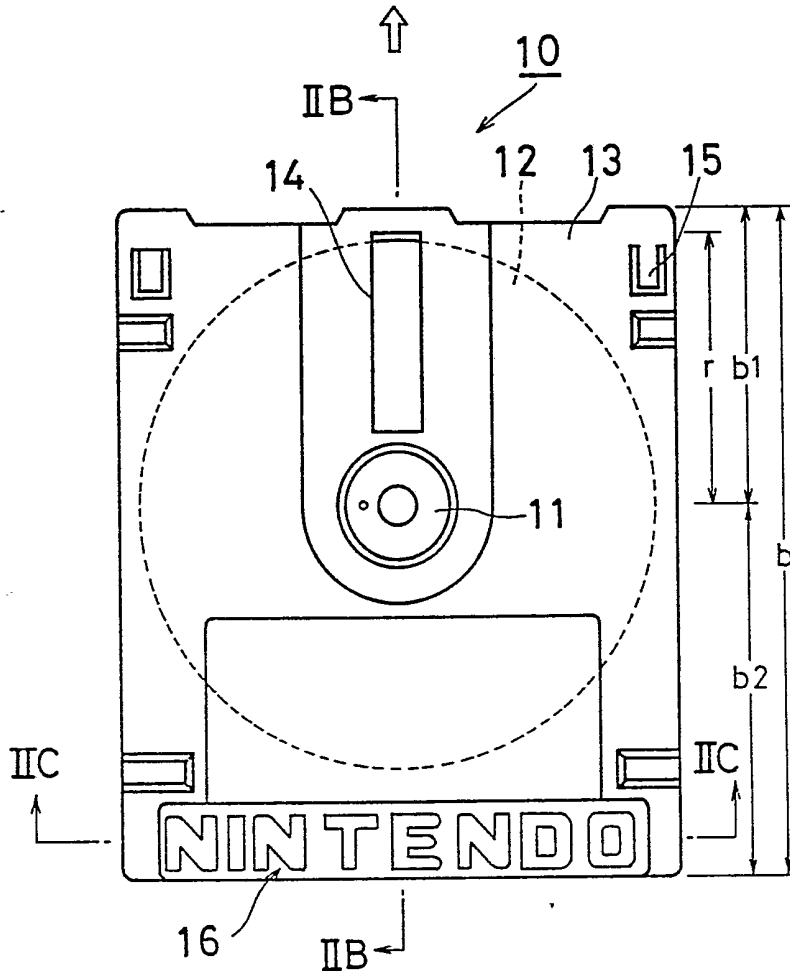


FIG. 2B

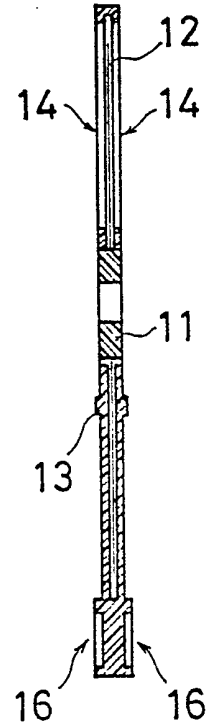


FIG. 2C

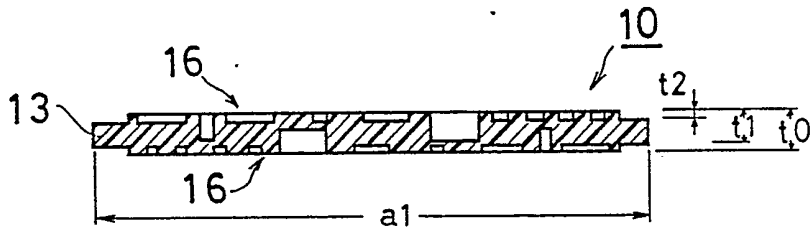


FIG. 3A

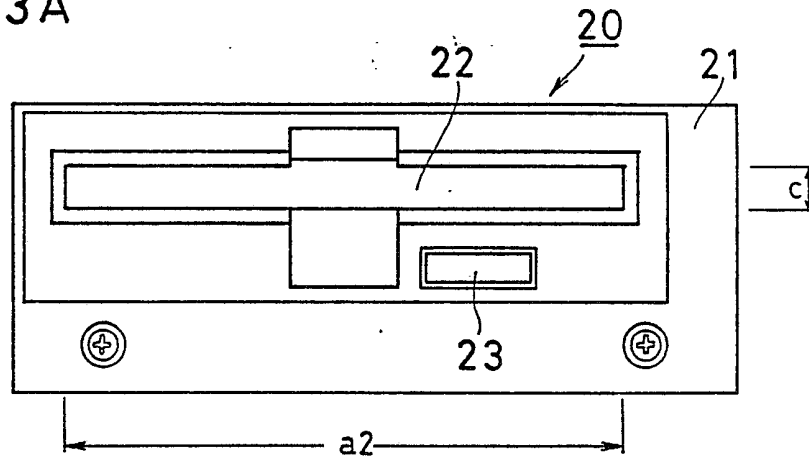


FIG. 3B

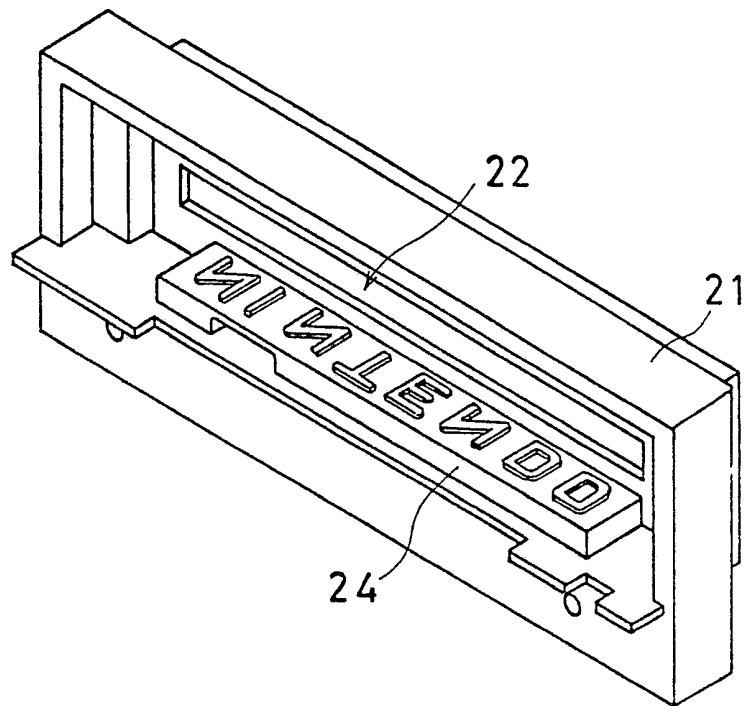


FIG. 3C

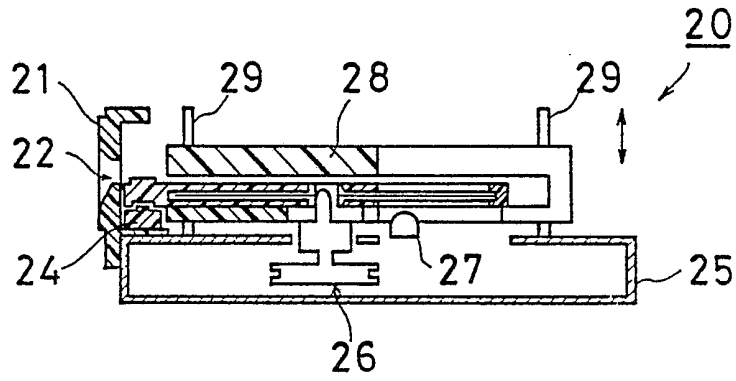


FIG. 4

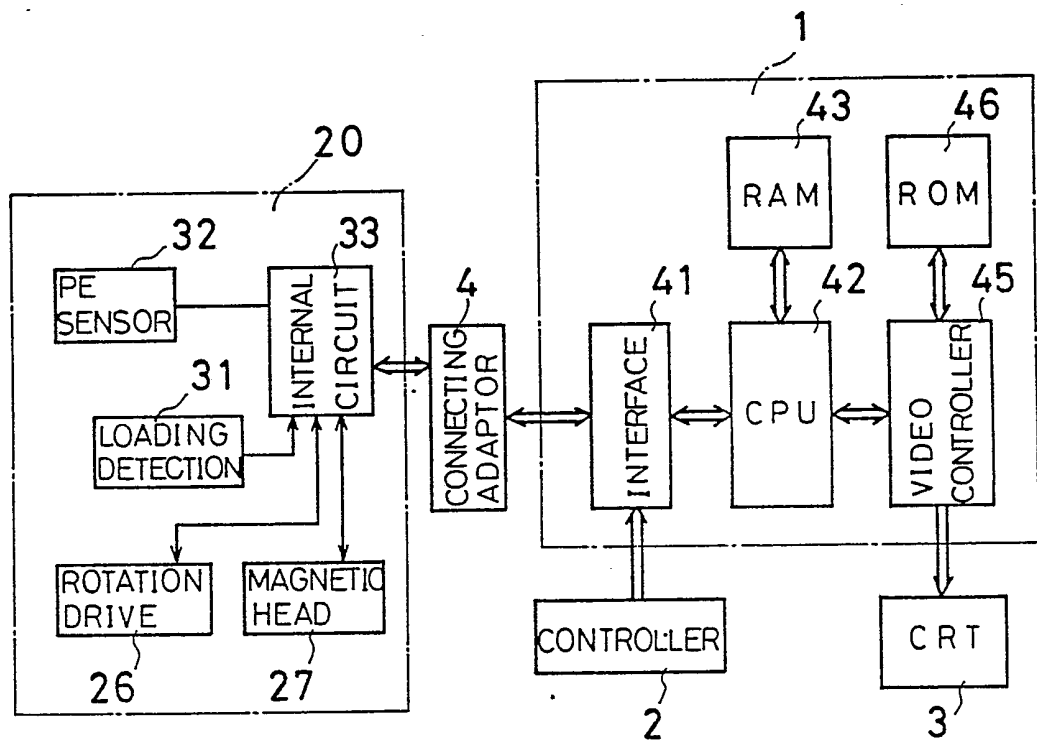


FIG. 5A

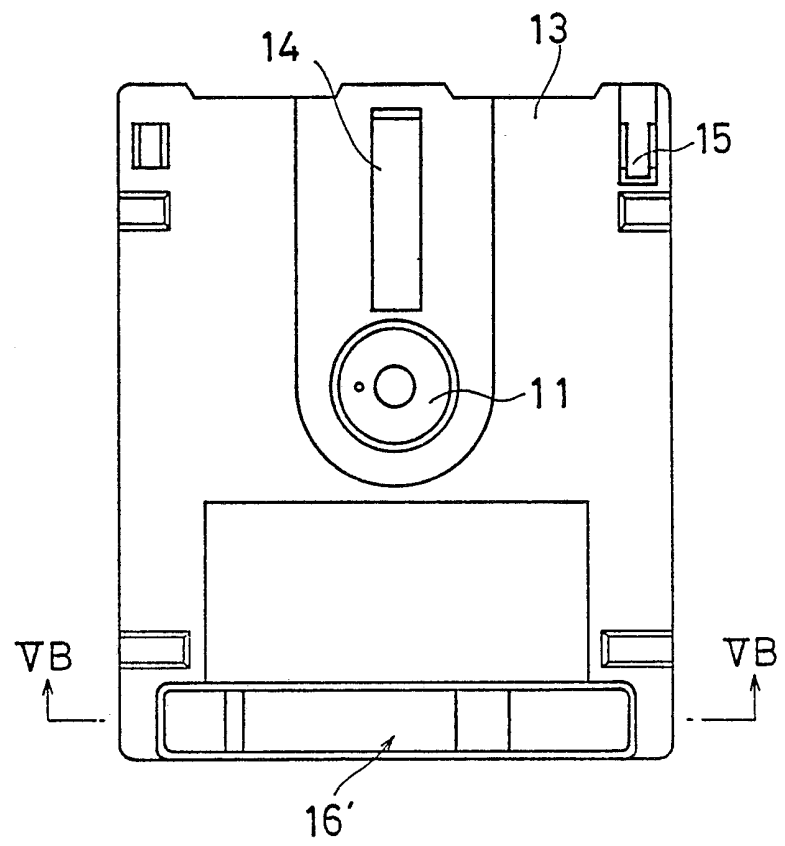


FIG. 5B

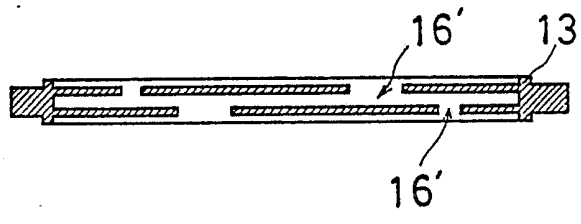


FIG. 6

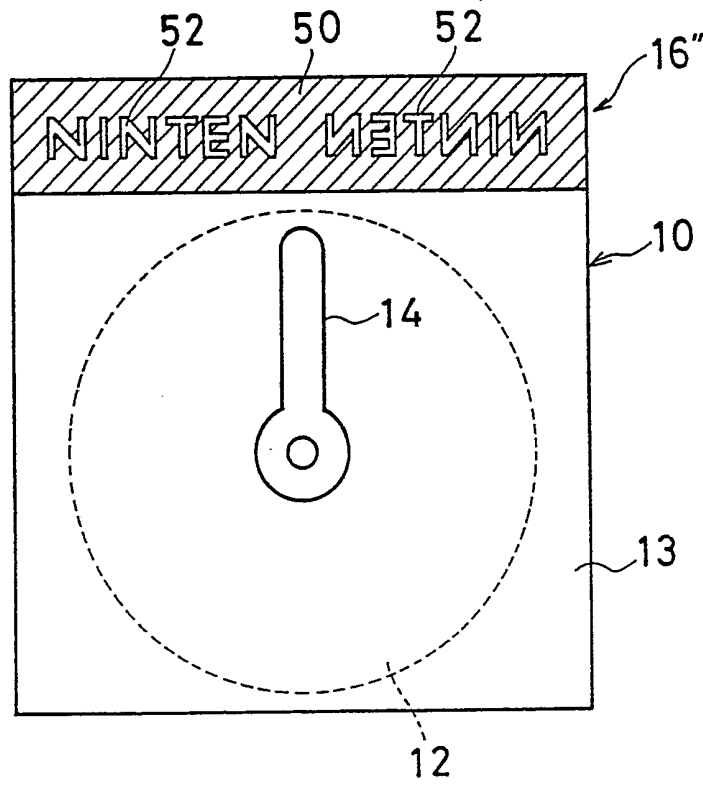


FIG. 7

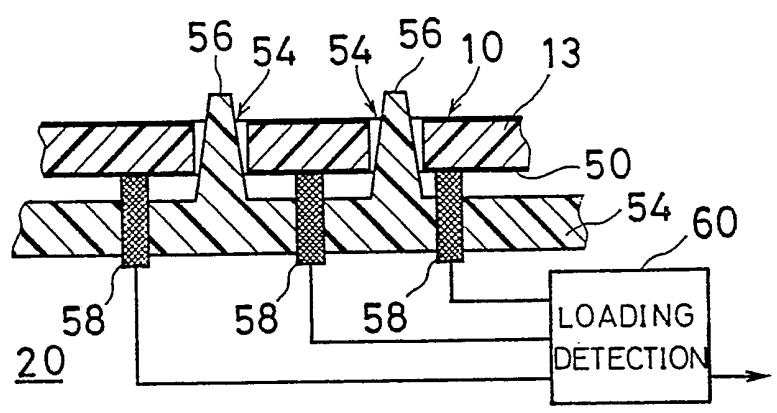


FIG. 8A

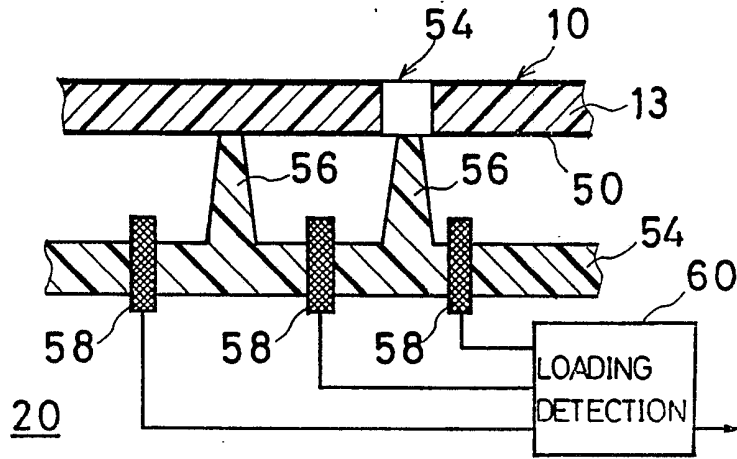


FIG. 8B

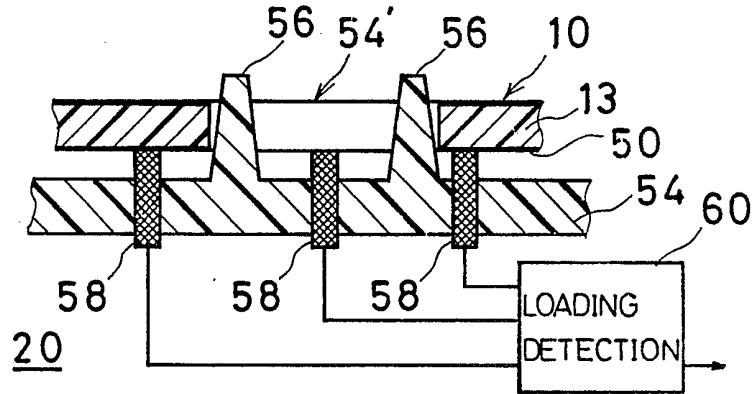
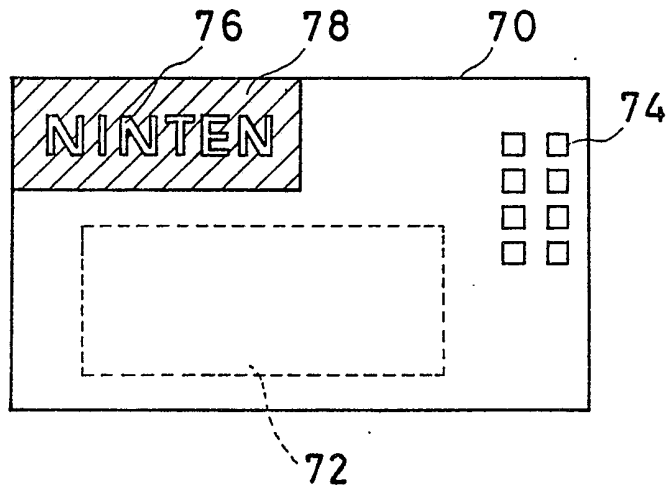


FIG. 9



TITLE OF THE INVENTION

Data recording device and the data processing
system employing the same

BACKGROUND OF THE INVENTION

5 Field of the Invention

The present invention relates to a data recording device
and the data processing system employing the same. More
specifically, the present invention relates to the data
recording device such as a floppy disk or an IC card which is
10 inserted into a read/write unit, and the system employing the
same.

Description of the Prior Art

Recently, compact type floppy disks such as 2.5 inches,
2.8 inches, 3 inches or 3.5 inches in diameter are used as
15 memory devices for personal computers and home television
gaming machines or the like. Such a compact type floppy
disk comprises a plastic case and a magnetic disk rotatably
contained therein.

These floppy disks of various forms and sizes have been
20 so far produced by manufacturers. However, if only the form
and size of one disk is equal to that of another, each disk
can be commonly loaded into a floppy disk drive device

(hereinafter called "FDD") regardless of difference in recording systems or data formats and seemingly has interchangeability even for different types of floppy disks.

However, if a type of an FDD is different from that of
5 another, there are differences in the recording system (encoding system) or the data formats between the both, causing problems of data error and difficulty in finding out points of data error when a floppy disk recorded in a certain type of FDDs is played back by another type of FDDs.

10 Further, if a commonly available floppy disk having recorded a software program of a game is sold, these programs may be reproduced on non-recorded floppy disks (so called raw disks) and be illegally sold as a low-priced software of games, whereby a software supplier may inflict big dis-
15 advantages. Furthermore, when low quality illegally reproduced floppy disks are sold, the software supplier is not only subject to disadvantages, but also make troubles for users because of the bad quality of disks. This damages the image and reputation of genuine floppy disks manufacturer.

20 There is, so far, almost no effective means to prevent data recording devices such as floppy disks from being reproduced illegally of this kind.

SUMMARY OF THE INVENTION

It is a principal object of the present invention,

therefore, to provide a data recording device of the type useful in preventing the device from being reproduced without permission.

It is a further object of the invention to provide a data processing system of the type useful in accepting only genuine data recording devices.

Another object of the invention is to provide a data recording device which can easily detect the ones without fail that are not fitting with a specified read/write unit.

Briefly, the present invention is a data recording device which is inserted into a read/write unit through an insertion opening formed on the read/write unit, comprising; a case to be inserted through the insertion opening, a second identifying symbol formed on the case at a position opposite to a first identifying symbol having a specified shape when the case is inserted through the insertion opening, said second identifying symbol having a specified shape corresponding to the first identifying symbol, and a recording medium contained within the case.

When the data recording device having the second identifying is inserted into the insertion opening of the read/write unit, the first identifying symbol, for example, a projected emboss is fitted into the second identifying symbol, for example, a recessed emboss and then the data recording device is normally loaded and the operation of data

read/write is carried out.

On the other hand, when a data recording device having no second identifying symbol or having no genuine symbol is inserted into the opening, the second identifying symbol of the data recording device is not fitted into the first identifying symbol and the data recording device, for instance, rises and is not normally loaded. Therefore, the operation of data write to or read from the data recording medium becomes impossible. In other words, the data recording device can be discriminated by its structure or form whether it is genuine or not and thus this enables us to identify easily the data recording device without fail that is not fitting with the specified read/write unit and makes us unable to load the data recording device of no genuine and prevent the device from unlawful recording or playback.

According to this invention, therefore, it is impossible to read data from an unfitted data recording device written by a read/write unit other than the specified one and thus it is possible to prevent the troubles of data error caused by using a data recording device which has a different recording system or format other than that of the genuine even if that device can be loaded into the unit.

Furthermore, if means for detecting whether a data recording device is normally loaded or not installed, it is possible to more effectively prevent use of false data

recording devices with the effect of the above-mentioned differences in form or structure.

The above and other objects, features, aspects and advantages of this invention will be more apparent from the following detailed description of illustrative embodiments when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a home television gaming apparatus as one embodiment in accordance with the present invention.

Figs. 2A through 2C are illustrated views of a floppy disk as one embodiment in accordance with the present invention, wherein Fig. 2A is a plan view of the floppy disk, Fig. 2B is a sectional view of the floppy disk taken along line IIB-IIB of Fig. 2A and Fig. 2C is a sectional view of the floppy disk taken along line IIC-IIC of Fig. 2A.

Figs. 3A through 3C are illustrated views showing a major portion of an FDD, wherein Fig. 3A is a plan view of the FDD, Fig. 3B is a perspective view of an inside of an insertion opening of the FDD and Fig. 3C is an illustrative cross-sectional view of Fig. 3B.

Fig. 4 is a block diagram showing a configuration of the embodiment shown in Fig. 1.

Figs. 5A through 5B are illustrated views of a floppy

disk of another embodiment in accordance with the present invention, wherein Fig. 5A is a plan view of this floppy disk and Fig. 5B is an illustrated cross-sectional view of the floppy disk taken along line VB-VB of Fig. 5A.

5 Fig. 6 is an illustrated plan view of a floppy disk of still another embodiment in accordance with the present invention.

Fig. 7 is an illustrated cross-sectional view showing a major portion of an FDD employing the embodiment in Fig. 6.

10 Figs. 8A and 8B are respectively illustrated cross-sectional views showing the floppy disk of the embodiment in Fig. 7 being not normally loaded.

Fig. 9 is an illustrated plan view of an IC card as still another embodiment in accordance with the present
15 invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Fig. 1 is a perspective view of a television gaming apparatus as one example of data processing systems to which the present invention is applicable. This television gaming
20 apparatus is well known as a "Family Computer" or "Nintendo Entertainment System; NES" manufactured and sold by the assignee of the present application.

Microcomputers and their related devices are provided in a main unit 1 of the gaming machine. Two controllers 2 as
25 operating means of the gaming machine are connected to the

main unit 1. These controllers 2 are operated by a player and generate various commands and give them to the main unit 1. A display unit 3 including a raster cathode ray tube such as that of a television receiver is connected to the main 5 unit 1. Visual information of characters and backgrounds are displayed on the display unit 3. The player can play by operating the controller 2 so as to move the characters appearing on the display unit 3.

A connecting adaptor 4 is provided by free plug-in/out 10 in the main unit 1. A data read/write unit or an FDD 20 which receives a floppy disk 10 as one example of data recording devices is connected to the main unit 1 via the connecting adaptor 4. The FDD 20 can data-write to or read from the floppy disk 10. For this purpose, a disk insertion 15 opening 22 is formed in the front of the FDD 20.

Programs for various kinds of games are stored in the floppy disk 10 and these programs are read by the FDD 20 and input to the microcomputers (not shown) of the main unit 1 via the connecting adaptor 4. Then the microcomputers carry 20 out necessary data processing according to input from the controllers 2 and display results of data processing on a screen of the display unit 3. A player can enjoy with other games by changing the floppy disk 10. Meanwhile, the FDD 20 can be used not only for these games but also for other 25 general data processing when microcomputers can be applied to

that purpose.

Figs. 2A through to 2C are illustrated views showing one example of a floppy disk to which the present invention was applied. A floppy disk 10 includes a magnetic disk 12 having a hub 11 fixed at the center thereof and a case 13 of plastic molding for containing the same.

The outer shape of the case 13 is made larger than that of the magnetic disk 12. The width of the case 13, that is, its lateral length a_1 in Fig. 2A is made smaller than the width a_2 of the insertion opening 22 of the FDD 20 being shown in Figs. 3A to 3C and described later.

The longitudinal length of the case 13, that is, the length b along a direction of disk insertion or an arrow mark in Fig. 2A is made longer than the diameter $2r$ of the magnetic disk. The length b_2 from the center of the magnetic disk 12 to the back end (the lower side of Fig. 2A) of the case 13 in the direction of insertion is made longer than the length b_1 from the center of the magnetic disk 12 to the front end (the upper side of Fig. 2A) of the case 13 in the direction of insertion, ($b_1 < b_2$).

On both main surfaces of the case 13, a head insertion opening 14 is formed from a point near the center of the magnetic disk 12 to a point near the front end of the case 13 along the direction of insertion.

On the side surfaces of the front end portion of the case

13, nails 15 which protect the magnetic disk 12 from being data-written by folding the same are formed.

Further, both main surfaces of the case 13 are provided with identifying symbol 16 along the back end of the case 5 which forms a feature of the present invention. The identifying symbol 16 includes assembly of alphabet, kana (Japanese letters) and numeral, like a trademark as an example, in forms of recessed pattern of embossing.

Meanwhile, identifying symbols are not limited to 10 characters shown in the drawings but may include many symbols such as circle, triangle, square and nonsense symbols such as zig-zag pattern, line varying its thickness or position gradually. These symbols are called "character" as a whole in this specification.

15 In the embodiments shown, the identifying symbol 16 has a form of assembly of characters of "NINTENDO" formed in the forms of the recessed pattern of embossing. It is preferable that in the identifying symbol having combination of plural characters, characters placed at specified positions or 20 classified in specified sorts, for example, in the embodiment shown, the second character from the left of "NINTENDO", "I" and the sixth character, "N", are formed so as to have deeper recessed portions than that of other characters. Thickness of the case 13 is made to have t_0 and depth t_1 of a character 25 formed deeper is larger than depth t_2 of a character formed

less deep and, t_1 is made larger than $1/2 t_0$, that is ($t_2 < t_0/2 < t_1 < t_0$). In this way, when some specified characters in the identifying symbol 16 are made to have different recess depth from other characters, it is easy to discriminate the disk having abovementioned identifying symbol 16 from a disk not genuine which has a recessed emboss but has a constant depth for each character.

When the floppy disk 10 is for one surface recording, the identifying symbol 16 formed on one surface will suffice, but when the disk 10 is for both surface recording, the identifying symbol 16 is formed on another side of the case 13. In this case, specified characters of deeper recessed emboss in the identifying symbol 16, "I", and "N", in the embodiment, are formed on both sides of the case 13 are made to not overlap each other in the direction of the case thickness. The reason for such formation is that if these specified characters are made to overlap, then penetrated holes are formed and the disk can not be discriminated from one having penetrated holes at that portion and other portions, that is, disk of no genuine. However, the present invention does not exclude such a penetrated hole or through-hole.

Meanwhile, the case 13 may be made in the manner that two halves are combined with each other. The case 13 may be slidably provided with a shutter to shut selectively the head

insertion slot.

Figs. 3A through 3C are illustrated views showing a major portion of an FDD. A front panel 21 of the FDD 20 is provided with an insertion opening 22 having a long width in a horizontal direction. In the opening 22, the length of the horizontal direction, i.e. the width a_2 is longer than the width a_1 of the floppy disk 10, ($a_1 < a_2$) and, a length of a direction intersecting to the long width, that is, the height c of the opening is made to be longer than the thickness t_0 of the floppy disk 10, ($c > t_0$). An eject button 23 is provided under the insertion opening 22 in order to take out the floppy disk 10.

An identifying symbol 24 is formed inside the insertion opening 22 and at one side in parallel to the longitudinal direction, in the embodiment shown, under the opening 22. The identifying symbol 24 is so made that the same is able to fit into the identifying symbol 16, which is composed of recessed emboss on the case 13 of the floppy disk 10 and then a character or an assembly of characters of the identifying symbol 24 are made to form a turn-overed array of a character or an assembly of characters of the identifying symbol 16 and are made to have a projected pattern embossing.

In this way, the identifying symbol 16 of the floppy disk 10 is composed of the recessed pattern embossing, while the identifying symbol 24 of the FDD 20 is composed of

projected pattern embossing, because if these embossing patterns are exchanged, the genuine floppy disk can not be discriminated from a false disk in which a portion corresponding to the identifying symbol 16 on the case 13 is formed into a flat surface.

Meanwhile, characters of the identifying symbol 24 which correspond to the deeper formed characters of identifying symbol 16 are formed into higher emboss than other characters as well seen from Fig. 3B.

10 A casing 25 is fixed to a rear surface of a front panel 21 inside, that is, a lower portion of inside the insertion opening. The casing 25 is provided with a rotation drive system 26 which rotates the magnetic disk 12 and a magnetic head 27. On the upper surface of the casing 25, a holder 28 15 for holding the magnetic disk 12 is up and down freely slidably supported by a a guide post 29. The holder 28, with its uppermost position, accepts the floppy disk 10 inserted through the opening 22 and when the floppy disk 10 is completely inserted, it is pushed down to the lower most 20 position by a connecting rod (not shown) and thoroughly loaded to ready recording or playback. In association with the lowermost position of the holder 28 or the position at which the floppy disk 10 is thoroughly loaded to ready recording and playback, a loading detection switch 25 (designated by the numeral 31 shown in Fig. 4) is provided

to detect whether the floppy disk 10 having the identifying symbol 16 is normally loaded.

Preferably, a sensor for detecting penetration such as a photoelectric sensor (designated by the numeral 32 shown in 5 Fig. 4) is provided near the identifying symbol 24 to detect none genuine disks in which a corresponding portion to the identifying symbol 16 of the floppy disk 10 is formed into a penetrated hole.

When the floppy disk 10 having predetermined characters 10 of the recessed pattern embossing in the identifying symbol 16 is inserted into the insertion opening 22, the holder 28 moves downwardly and the characters of the projected pattern embossing in the identity symbol 24 of the FDD 20 fit into the recessed characters in the identifying symbol 16. 15 Therefore, gaps between the floppy disk and the FDD do not occur and the holder 28 is able to be pushed down to the lowermost position and the floppy disk 10 can be normally loaded to ready recording or playback. In this event, a loading detection switch 31 shown in Fig. 4 turns on and the 20 photoelectric sensor 32 turns off.

Both detection signals are given via an internal circuit 33 and a connection adaptor 34 to an interface 41 included in the main unit 1. Accordingly, a CPU 42 constituting microcomputer gives read signal (or write signal) to the 25 internal circuit 33 to enable read (or write). Therefore,

the internal circuit 33 enables the rotation drive system 26 and program being read from the floppy disk 10 by the magnetic head 27 is transferred to the interface 41. This program is loaded in a RAM 43.

5 After then, when a player starts game by operating the controllers 2, the CPU 42 gives data for controlling the game based on the program information stored in RAM 43 to a video controller 45. The video controller 45 makes the display unit 3 to display pictures for games depending on input data 10 and character information stored in ROM 46.

When taking out the floppy disk, the eject button 23 may be depressed. Then, a locked state of the same is released and the holder 28 moves upwardly, thereby the floppy disk is ejected.

15 In the case that the identifying symbol 16 of the floppy disk 10 is different than that of the genuine or the disk has no symbol, that is, a predetermined relationship does not exist between the identifying symbols of the FDD 20 and the disk, the disk may be an unfitted floppy disk. When such an 20 unfitted floppy disk is inserted into the insertion opening 22, the holder 28 moves downwardly but the embossed portion of the identifying symbol 24 contacts with a portion of the under surface of the floppy disk and makes a slight gap between the unfitted floppy disk and the identifying symbol 25 24. Accordingly holder 28 does not reach its undermost

position and the disk is not normally loaded. Therefore, the loading detection switch 31 is left turned-off and the CPU 42 does not output read/write signal, whereby the read/write operation is prohibited.

5 On the other hands, in the case where an unfitted floppy disk is inserted in which a portion corresponding to identifying symbol 16 is formed into a long penetrated hole, this disk is normally loaded and the loading detection switch 31 outputs "on" signal but the photoelectric sensor 32 turns
10 on and detects the penetrated hole, thus the CPU 42 does not output read/write signal and the read/write operation is prohibited.

 According to the embodiment of the present invention, as mentioned above, only the floppy disks having the specified
15 identifying symbol 16 are allowed to data-read/write while the unfitted disks are prohibited from normal loading into the FDD 20. Therefore, floppy disks other than the genuine are not applied to the FDD 20 and structural feature of the data recording device itself causes an advantage of prevent-
20 ing troubles of data error arising from difference in recording system. Further, it is easy to exclude unlawful software which is reproduced in an available floppy disk and called pirate copy from use, therefore, it is useful to normalize software distribution.

25 Figs. 5A and 5B are the illustrated views showing

another example of floppy disks to which the present invention is applicable. In this embodiment, the identifying symbol 16 is modified compared with the embodiment of Figs. 2A to 2C. More specifically, in the former embodiment, the 5 identifying symbol 16 forms a trade mark "NINTENDO" which is an assemble of readable or perceptible characters, while in this embodiment, only a portion corresponding to the specified characters, "I" and "N", of the identifying symbol 16 forms are formed into the recessed pattern embossing as an 10 identifying symbol 16'. Using a floppy disk 10 having such a modified identifying symbol 16' enables the FDD 20 to operate normally, because such an identifying symbol 16', as clearly illustrated in Fig. 5B, is equivalent to the recessed pattern embossing form of the identifying symbol 16.

15 More specifically, as described above, the portion "I" and "N" of the identifying symbol 16 in Fig. 2C has larger depth t1, similarly the corresponding portion of the identifying symbol 16' has also larger depth t1. Therefore, when the floppy disk 10 shown in Figs. 5A and 5B is inserted into 20 the insertion opening 22 of the FDD 20 shown in Figs. 3A to 3C, the identifying symbol 16' completely fits into the identifying symbol 24 of the projected pattern embossing formed in connection with the insertion opening 22.

Fig. 6 is an illustrated view showing the other example 25 of floppy disks to which the present invention is appli-

cable. The identifying symbol 16 or 16' in the embodiments described so far is formed at the back end of the floppy disk 10 with regard to the direction of insertion, while in this embodiment, the identifying symbol is formed at the front 5 end. However, the position of this identifying symbol 16" may be at the back end similarly to the aforementioned embodiments.

A floppy disk 10 of this embodiment, includes a case 13 which is provided with a head insertion opening 14 and an 10 identifying symbol 16". The area of the identifying symbol 16" is provided with a conductive film 50 by means of metal evaporation, for example. In this identifying symbol 16", an assembly of characters similar to the aforementioned 15 part of the trademark "NINTENDO" is formed. Being different from the aforementioned embodiments, this assembly of characters "NINTEN" is formed as stamped hole or through-hole.

Further, since the magnetic disk 12 is usually formed 20 for two sides use, this identifying symbol 16" comprises a pair of "NINTEN". One "NINTEN" is an identifying symbol to use one side of the magnetic disk and another "NINTEN" is an identifying symbol to use another side of the magnetic disk.

Figs. 7 through 9 are illustrative cross-sectional views 25 showing relations between an FDD and a floppy disk employing

the embodiment of Fig. 6. The FDD 20 is provided with a table 54 which supports a loaded floppy disk 10.

The table 54 is provided with protrusions 56 as a first identifying symbol. This protrusion 56 is formed to fit into a through-hole 52 of the identifying symbol 16" of the floppy disk 10. That is, the protrusions 56 are formed in the same pattern as that of "NINTEN" which is an assembly of identifying characters.

Further, the table 54 is provided with a plurality of electrodes 58 around the projections 56, which are connected to a loading detection circuit 60. In this embodiment, whether or not the genuine floppy disk 10 is normally loaded into the FDD 20 is detected by whether or not each electrode 58 is short-circuited.

15 When the floppy disk 10 is inserted into the insertion opening 22 of the FDD 20, the floppy disk 10 is placed on the table 54 inside the FDD 20. At this time, if specified identifying symbol 16", i.e. the through-holes 52 have been formed on the floppy disk 10, this through-holes 52 20 coincide engage with the protrusions 56 of the FDD 20 and the protrusions 56 are fitted into the through-holes 52. Then, the floppy disk 10 is normally loaded as shown in Fig. 7.

In the normal state shown in Fig. 7, the conductive film 50 formed on the identifying symbol 16" contacts each 25 electrode 58 simultaneously. Therefore, the respective

electrodes 58 are short-circuited with each other. Then the loading detection circuit 60 detects this short circuit and, outputs detection signal. In response to this detection output, the FDD 20 carries out data-write to or read from the 5 floppy disk 10 similarly to the aforementioned embodiments.

On the contrary, when the through-holes 52 of the identifying symbol 16" formed on the floppy disk 10 do not have specified forms as shown in Fig. 8A, through-holes 52 do not fit into the protrusions 56 even though the floppy disk 10 is inserted into the FDD 20 and the floppy disk 10 is not normally positioned. In addition, with state shown in Fig. 8A, the floppy disk 10 rises and the electrodes 58 can not contact with the conductive film 50. Therefore, the loading detection signal is not output from the loading detection 15 circuit 60, whereby data-read or write operation becomes impossible.

Further, when the floppy disk 10 having a large through-hole 52' surrounding the "NINTEN" of the through-hole 52 is inserted into the FDD, the through-hole 52' engages the 20 protrusion 56 as shown in Fig. 8B and the floppy disk 10 may be normally positioned. In this case, however, since some of the electrodes 58 opposes to the through-hole 52', all of the electrodes 58 are not necessarily short-circuited simultaneously and therefore the loading detection signal is not 25 output from the loading detection circuit 60 similarly to the

case of Fig. 8A.

In addition, if adding a line to a part of "NINTEN" of the identifying symbol 16" and forming through-holes of characters not readable as the identifying symbol 16", the loading detection circuit 60 does not output the detection signal similarly to the case of Fig. 8B.

As the data recording device of this invention other than the above floppy disk 10, so-called IC card may be considered.

10 Fig. 9 is an illustrated view showing one example of IC cards as another embodiment in accordance with the present invention. This IC card 70 includes an integrated circuit 72 and an electrode 74 contained in a case of synthetic resin. The integrated circuit 72 includes at least a semi-
15 conductor memory as a memory or recording device. Predetermined programs and other data are stored in the semiconductor memory. The electrode 74 is used for connecting the integrated circuit 72 to external system.

The identifying symbol 76 is formed on a predetermined
20 region of the case of the IC card 70. A conductive film 78 is formed on the surface of the identifying symbol 76 by metal evaporation, for example. A through-hole having the same shape as that of the through-hole 52 shown in Fig. 6 is formed on a predetermined position of the identifying symbol
25 76. The IC card 70 is loaded only with the surface shown in

Fig. 9 up, therefore only one of such through-hole is formed.

Such an IC card 70 is loaded into a read/write unit having an insertion opening like the FDD 20 but detailed illustrations and descriptions of the unit are omitted here.

5 It will be apparent from the foregoing that, while the invention has been illustrated and described in detail, the illustrations and their descriptions are given only for the purpose of examples and the present invention is not limited specifically to the foregoing embodiments. Accordingly, the
10 spirit and scope of the invention is limited only by the appended claims.

WHAT IS CLAIMED IS:

1. A data recording device which is inserted into a read/write unit having an insertion opening through which said data recording device is inserted, comprising;
a case to be inserted into said insertion opening,
5 a second identifying symbol which is formed at a position opposite to a first identifying symbol when the data recording device is inserted into said read/write unit, said first identifying symbol being formed inside said read/write unit and having a specified form and, said second identifying
10 symbol being formed on said case and having a specified form corresponding to said first identifying symbol, and
a recording medium contained in said case.
2. A data recording device in accordance with claim 1, wherein said first and second identifying symbols comprise an
15 assembly of a completely identical or different characters or symbols.
3. A data recording device in accordance with claim 2, wherein said first identifying symbol is formed in a convex form while said second identifying symbol is formed in a
20 concave form.
4. A data recording device in accordance to claim 3, wherein said first identifying symbol includes a protrusion and said second identifying symbol includes a through-hole to which said protrusion can be engaged.

5. A data recording device in accordance with claim 3, wherein said first identifying symbol includes a projected emboss, while said second identifying symbol includes a recessed emboss to which said projected emboss can
5 be fitted.

6. A data recording device in accordance with claim 5, wherein said projected emboss of said first identifying symbol includes at least one character being higher than others and said recessed emboss of said second identifying
10 symbol includes a character being deeper than others in corresponding to the higher character included in said first identifying symbol.

7. A data recording device in accordance with claim 2, wherein an assembly of characters or symbols of said second
15 identifying symbol represents a trademark.

8. A data recording device in accordance with claim 1, wherein said first identifying symbol is formed near said insertion opening of said read/write unit and said second identifying symbol is formed at or in the vicinity of the
20 rear end of the insertion opening.

9. A data recording device in accordance with claim 1, wherein said first identifying symbol is formed at the back of said insertion opening of said read/write unit and said second identifying symbol is formed at or in the vicinity of
25 the front end of said case in the direction of insertion.

10. A data recording device in accordance with claim 1, wherein said recording medium includes a magnetic disk and said read/write unit includes a magnetic head, said recording device further comprising a head insertion opening formed on 5 said case, through which said magnetic head contacts said magnetic disk.

11. A data recording device in accordance with claim 10, wherein said head insertion opening is formed in a slender shape along a radial direction in a region of the front side 10 of an insertion direction when insertion is made into said unit, on at least one main surfaces of said case .

12. A data recording device in accordance with claim 11, wherein said head insertion opening and said second identifying symbol are formed at a symmetrical position in both 15 main surfaces of said case.

13. A data recording device in accordance with claim 12, wherein said first identifying symbol includes a projected emboss, while said second identifying symbol includes a recessed emboss which engages with said projected emboss.

20 14. A data recording device in accordance with claim 13, wherein said projected emboss of said first identifying symbol includes at least one character being higher than others and said recessed emboss of said second identifying symbol includes at least one character being deeper in cor- 25 responding to said higher character included in said first

identifying symbol.

15. A data recording device in accordance with claim 14, wherein said second identifying symbols formed respectively on one main surface and another main surface of said case are
5 disposed at positions divergent to each other on both main surfaces of said case.

16. A data processing system comprising:

a data processing unit,

a read/write unit which is provided with in relation
10 with said data processing unit and accepts data recording device to write to or to read data therefrom,

an insertion opening which is formed on the read/write unit, through which said data recording device is inserted,

a first identifying symbol which is formed inside said
15 read/write unit and has a specified shape;

a second identifying symbol which is formed on the case of said data recording device at a position in opposite to said first identifying symbol having a specified shape formed inside said unit when being inserted into said read/write
20 unit and has a specified shape corresponding to said first identifying symbol, and

a recording medium which is contained in said case.

17. A data recording device in accordance with claim 16, wherein said first and second identifying symbols include an
25 assembly of completely identical or different characters or

symbols.

18. A data recording device in accordance with claim 17,
wherein said first identifying symbol is formed in a convex
form, while said second identifying symbol is formed in a
5 concave form.

19. A data processing system in accordance with claim 16,
which further comprises

a detection means for detecting whether said first
identifying symbol gets engaged with said second identifying
10 symbol when said data recording device is inserted into said
insertion opening of said read/write unit, and

means for enabling to write to or read from said data
recording device in response to a signal representing
normal loading from said detection means.

15 20. A data recording device in accordance with claim 19,
wherein said first identifying symbol includes a protrusion
and said second identifying symbol includes a throughhole to
which said protrusion can be engaged.

21. A data recording device in accordance with claim 19,
20 wherein said first identifying symbol includes a projected
emboss, while said second identifying symbol includes a
recessed emboss to which said projected emboss can be fitted.

22. A data recording device in accordance with claim 21,
wherein said projected emboss of said first identifying
25 symbol includes at least one character being higher than

others and said recessed emboss of said second identifying symbol includes at least one character being deeper than others in corresponding to the higher character includes in said first identifying symbol.

5 23. A data recording device in accordance with claim 22, which further comprises

a penetration detecting means for detecting whether or not an area of said second identifying symbol on said case is penetrated, and

10 means for unabling to write to or read from said data recording device in response to output from said penetration detecting means.

24. A data recording device in accordance with claim 20, wherein at least its surface part of a circumferential 15 portion of a through-hole on said case where said second identifying symbol is formed is made of conductive member, and

said penetration detecting means includes a plurality of electrodes mounted at suitable positions around said pro- 20 trusion and conduction detecting means for detecting that said electrodes are short-circuited by contacting said conductive member.