

PORTABLE DISK PLAYER

[0001] This application is a Continuation of co-pending application Ser. No. 10/190,560, filed on Jul. 9, 2002, and for which priority is claimed under 35 U.S.C. § 120; and this application claims priority of application No. 2001-0041285 filed in Korea on Jul. 10, 2001 under 35 U.S.C. § 119; the entire contents of all are hereby incorporated by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a disk player, and more particularly, to a disk player that is capable of reading or writing data on a disk.

[0004] 2. Description of the Background Art

[0005] As disks are developed to store more data and a technique is developed to compressively store a data, a relatively large amount of data can be stored in one disk.

[0006] Owing to such an advancement in a recording medium such as a DVD-ROM, a CD-ROM, or the like, the DVD-ROM disk now can store a data as much as one piece of movie.

[0007] In line with the tendency, a disk player has been introduced to allow users to view a movie or performance scenes while carrying a DVD holding the movie or the performance scenes.

[0008] The disk player includes a base unit for receiving and driving a disk, reading a signal recorded in the disk and reproducing the read signal; and a display unit hinged rotatably at the base unit and displaying an image for users' view.

[0009] The display unit is connected to the base unit by a hinge assembly and set at an angle desired by the user.

[0010] The display unit is attached to the base unit when not being used, so that the entire disk player can be portable in a flat and rectangular form such as a book or a notebook and portable.

[0011] Thus, in order to heighten the portability, designing is requisite to minimize the thickness of the display unit and the base unit.

[0012] As for the disk player constructed with the base unit and the display unit, due to a tolerance of the hinge assembly caused during a fabrication process or bending of an injected object constituting the display unit, it frequently occurs that the display unit fails to be accurately attached to the base unit. In such a case, the display unit would come off from the base unit, causing a problem of a bad appearance.

[0013] In an effort to solve the problem, the display unit is engaged to the base unit by using a connecting hook, but this construction has an inconvenience that a releasing process is required to release the connection.

[0014] In the disk player, a speaker for outputting a voice signal is provided at one side of the base unit or the display unit.

[0015] And a connection terminal may be also installed to output the voice signal through a headphone or transmit to output the voice signal to an amplifier of audio equipment.

[0016] At this time, the speaker is to be positioned at a rear stage of a speaker grill formed exposed outwardly of the display unit or the base unit. In this respect, however, in case of an overall thin structure, the speaker cannot be fixed with a screw. Then, the installation state of the speaker is unstable and an output state of a sound is bad.

[0017] A lot of printed circuit boards (PCB) are used for the disk player. When the PCBs are mounted by using screws in the disk player, bosses should be formed for engagement of the screws, which occupy much space only to serve as an obstacle for a thin design.

[0018] In addition, for reproducing and recording of a disk, a pick-up base should be provided to rotate the disk and reproduce a signal recorded in the rotated disk.

[0019] Operation of the pick-up base causes much vibration and noise, so that it is preferably designed not to transmit the vibration and noise outwardly of the pick-up base.

[0020] For this purpose, in the conventional art, the pick-up base is fixed inside the base unit by using the screw with a vibration damper inserted. However, in this construction that the screw is used to fix the pick-up base, a thin design is difficult to obtain because the base unit occupies much space in the height direction.

[0021] Meanwhile, a display LCD for displaying an operation state is used for the portable disk player. The display LCD is mounted at the board such that its connection terminal is inserted into a mounting hole formed at the board and soldered.

[0022] However, when the mounting hole is formed at the board, an area of the mounting hole is so large for the board, resulting in that a space use efficiency of the board is degraded.

[0023] Especially, it works worst in case that a circuit pattern is formed at both surfaces of the board for a thin design and parts are mounted thereon, and a plurality of boards are installed overlapped with intervals.

[0024] A converting lever for manipulating a converting switch installed at a main board of the disk player is exposed outwardly through the side of the base unit. In order to install the converting lever at the side of the base unit, a construction is to be formed to guide the converting lever to a lower housing of the base unit and only after an upper housing is assembled, the converting lever is completely fixed.

[0025] However, in such a case, it is difficult to disassemble and assemble the converting lever, and there is a limitation in forming the side of the base unit with various colors and designs.

[0026] Finally, in the conventional art, an LED holder is used to transmit a light of an LED installed on the board to the front side of the base unit and display an operation state of an instrument. The LED holder is engaged by using a screw or a portion inserted into the LED holder is melt by heat to be fixed. Thus, since the screw is additionally used, the number of parts is increased and the operation processes are accordingly increased in number. In addition, in case that the portion is melt by heat to fix the LED holder, its maintenance is impossible.