This invention relates to an external light carrying device employed mainly in a transparent panel of removable Gameboy Advance (GBA). The device constituting a light carrying module, connecting elements and an especially designed adapter (or containing a power supply) can be easily plugged into a socket opened on the front or rear battery compartment of GBA. This arrangement is to link the power directly from the GBA battery or the outside battery to illuminate the light carrying device which provides a constant illumination to the display panel of GBA while playing the game.
EXTERNAL LIGHT CARRYING DEVICE FOR GAMEBOY ADVANCE

FIELD OF THE INVENTION

[0001] This invention provides a structural design of a light carrying device, directly detached to GBA (Gameboy Advance) in an effort to supply sufficient illumination as to dazzle the GBA.

BACKGROUND OF THE INVENTION

[0002] In the prior art of the palm type GBA, the display panel requires light, thin, short and tiny design, so it often uses small-sized LCD screen as the display panel. The point is the players of the palm of GBA are teenagers and children. When the display panel is too tiny, the lighting is too dim and obscure, which is inevitably sure to discomfort the eyes and hurt the sight of the teenagers and children. The children are the future leaders of the nation, so this condition entails a prompt improvement.

[0003] For this reason, a modification kit has been emerged to combine a built-in light carrying panel with GBA where the steps are to remove the casing first, mount the light carrying panel in place, solder the connecting pins and finally mount back the casing to make it a complete GBA. For the teenagers and children alone, it is a deadlock because they have to pay for this modification. It entirely loses the DIY education.

[0004] Viewing the above statement, the inventor has been working hard for years in seeking improvement and solution and finally come up with this light carrying device which is detachable to GBA to supply sufficient illumination to GBA.

SUMMARY OF THE INVENTION

[0005] The primary object of this invention is to provide an external light carrying device exclusively detached to GBA. The device mainly consists of a light carrying panel module, connecting elements and an especially designed adapter (or containing power supply) to be easily plugged to the socket opened on the front or the rear battery compartment of GBA to directly supply power from the GBA battery or the outside battery and to illuminate display panel of GBA without the need of disassembly of casing and soldering of the connecting pins. This device provides good illumination to GBA and renders fun to the players.

[0006] The objects, performance and features are explained in great details with the aid of preferable embodiments as illustrated in the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a disassembly of a prior art of GBA along with a transparent display panel.

[0008] FIG. 2 is a disassembly of a preferred embodiment of the light carrying device of this invention.

[0009] FIG. 3 is an assembly of preferred embodiment of the light carrying device of this invention.

[0010] FIG. 4 is a disassembly of another preferred embodiment of the light carrying device of this invention.

[0011] FIG. 5 is an assembly of another preferred embodiment of the light carrying device of this invention.

[0012] FIG. 6 is a disassembly of another preferred embodiment of the light carrying device of this invention.

[0013] FIG. 7 is a disassembly of another preferred embodiment of the light carrying device of this invention.

DETAILED DESCRIPTION OF THE INVENTION

[0014] As shown in FIGS. 1 through 3, the external light carrying device provided by this invention is exclusively designed for use on GBA 1 from which the casing and the LCD transparent panel 10 are removed beforehand and a built-in light carrying panel 2 is inserted instead. The light carrying panel 2 constitutes a light carrying panel module and external connectors 20. After the power is linked, the light carrying panel 2 will illuminate. The GBA 1 has a front socket 11 to receive the adapter 3 linked to the internal power supply of GBA 1. The adapter 3 has a protrusion 30 and connecting pins 32 to be linked to the external connecting points 20 of the light carrying panel 2.

[0015] In the physical practice, the simplest thing the player has to do is to remove the transparent panel 10 from GBA 1, install the light carrying panel 2 and plug in the adapter 3 to complete the modification. During playing, the light carrying panel 2 will provide sufficient illumination and gain the ravishing beauty, novelty and esthetics.

[0016] As shown in FIGS. 4 and 5, there presents another embodiment of this invention where the adapter 3 is hooked to the back of the battery compartment of GBA 1. The battery compartment has a pivot battery cover 31 and projected connecting points 33. When the battery cover 31 is closed, these two connecting points 33 will resume the intimate contact with the positive and negative terminals of the battery.

[0017] At this moment, the external connectors 20 of the light carrying panel 2 will be moved to a lower portion in order to couple with the arrangement of the connecting pins 32 and the protrusion 30 of the adapter 3. When the battery cover 31 is closed on GBA, the protrusion 3 will make an electrical contact with the external connecting points 20 of the light carrying panel 2 to form a circuit loop.

[0018] When the player plugs the adapter 3 to the GBA 1, close the battery cover 31 and bend upright the protrusion 30 and the connecting pins 32 contacting the external connecting points 20 of the light carrying panel 2, the light carrying panel 2 begins to light.

[0019] FIGS. 6 and 7 show another embodiment of the light carrying device of this invention in which in addition to the power supply by the battery compartment of GBA 1, the adapter 3 serves the battery compartment as an alternative power supply (the battery is not shown in the drawings.) As shown in these figures, the adapter 3 can be inserted to the socket opened at the front or the rear of GBA 1 as an alternative power supply as the connecting points 32 of the protrusion 30 on the adapter 3 resumes contact with external connecting points 20 on the light carrying panel 2, so the light carrying panel 2 begins to light with beautiful decoration.

[0020] It is not hard to discover that the light carrying panel possesses the advantages as described below:

[0021] 1. It is easy and convenient to assemble and achieve free DIY modification.
2. By means of the socket of GBA and the adapter, it provides direct power supply and indirect power supply through the design of the adapter.

3. It effects sufficient illumination and ravishing decoration.

The external light carrying device combined with the adapter employs the GBA battery as the power supply to illuminate the display panel. As a matter of fact, the technique and performance take precedence over the prior art of GBA and its progressive practicability has never been released in any publication. Thus, it is justified for the grant of a patent.

An external light carrying device exclusively employed on GBA, after a casing and an LCD display panel of GBA being inserted instead, said light carrying panel constituting a light carrying panel module and external connecting points, and said light carrying panel illuminating while linked to power supply, said GBA having a front socket to receive said adapter connected to a battery compartment, said adapter providing a protrusion and connecting pins, after plugging into said socket, said connecting pins on said protrusion of said adapter making contact with said external connecting points and said light carrying panel beginning to light, this being a feature of said external light carrying device.

2. An external light carrying device exclusively employed on GBA, after a casing and an LCD display panel of GBA being removed, said light carrying panel being easily inserted instead, said light carrying panel constituting a light carrying panel module and external connecting points, said light carrying panel illuminating while linked to power supply, GBA having a battery socket at a rear to receive an adapter, said adapter having connecting pins on a protrusion and a pivot battery cover with projected connecting points, when said battery cover being closed, said connecting points making intimate contact with positive and negative terminals of battery, after plugging into said socket, said connecting pins on said protrusion of said adapter making contact with said external connecting points and said light carrying panel begins to light, this being another feature of said external light carrying device.

3. The external light carrying device of claim 1, wherein said adapter can hold battery as an alternative power supply to illuminate said light carrying panel, said adapter can be inserted to a front or rear of GBA as a power supply to illuminate said light carrying panel, this is another feature of said external light carrying device.

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