PACKAGING COMPRISING ELECTRICAL DEVICE, ELECTRICAL DEVICE AND METHOD

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ABSTRACT
A package for an electrical device that facilitates product demonstration is provided. The package includes a power source; a display device for displaying a rest mode, a normal mode or a presentation mode; and a transparent window for viewing the display device. The presentation mode includes emission of a user-specific optical and/or acoustic signal sequence by the display device and can be activated without manual impact onto the packaging.
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CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation of International Application No. PCT/IB2009/055288 filed Nov. 23, 2009, which claims priority to EP08021425.7, filed Dec. 10, 2008, the substance of which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present disclosure relates to a package for an electrical device. More particularly, the present disclosure relates to a package for an electrical device that facilitates product demonstration.

BACKGROUND OF THE INVENTION

[0003] It is already known for different electrical devices that the functions of the device can be displayed in a presentation mode on a display of the device for demonstration purposes. For example, the potential consumer either activates a corresponding button directly at the device or through the packaging in order to activate the presentation mode. However, this consumer interaction with the packaging or the device can result in damage to the product thereby causing the product to be removed from the sales rack.

[0004] It is therefore desirable to provide a package comprising a device, which is less susceptible to damage or operating errors by the consumer in the sales rack and which attracts the interest of the potential consumer.

SUMMARY OF THE INVENTION

[0005] In one embodiment, a package for an electrical device that facilitates product demonstration is disclosed. The package includes a power source; a display device for displaying a rest mode, a normal mode or a presentation mode; and a transparent window for viewing the display device. The presentation mode includes emission of a user-specific optical and/or acoustic signal sequence by the display device and can be activated without manual impact onto the packaging.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] While the specification concludes with claims which particularly point out and distinctly claim the subject matter that is regarded as the invention, it is believed the various embodiments will be better understood from the following description taken in conjunction with the accompanying drawings, in which:

[0007] FIG. 1 shows a package comprising an electrical device having an external transmitter according to one embodiment;

[0008] FIG. 2 shows a display device according to FIG. 1; and

[0009] FIG. 3 shows an electrical device according to FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

[0010] According to the present disclosure, a package for an electrical device for personal use for personal hygiene is provided. According to one embodiment, the electrical device is arranged in the packaging and can be seen through a transparent area of the packaging. The electrical device may encompass a display device for emitting an optical and/or acoustic signal, a battery for supplying the display device with power and a control device, which controls the display device as a function of a resting mode. During the resting mode, a user-specific optical and/or acoustic signal cannot be emitted and the device does not perform an electrical personal hygiene operational function. During a normal mode, a user-specific optical and/or acoustic signal can be emitted and the device additionally performs an electrical personal hygiene operational function. During a presentation mode, a user-specific optical and/or acoustic signal sequence can be emitted at the display device in the packaging, wherein the presentation mode of the device can be activated without manual impact onto the packaging. By activating the presentation mode without manual impact onto the packaging, it is thus ensured that the packaging and/or the device located therein do not experience any damage in the sales rack. The presentation mode is thus activated by activation at the device prior to the packaging or independent of the packaging, respectively.

[0011] In a further embodiment, the device for activating the normal mode encompasses a switch or button, which can be activated in such a manner that an activation of the switch or button, which lasts for less than one second, leads to the activation of the normal mode. During the manual activation of the normal mode, it is ensured that an inadvertent activation of the presentation mode does not take place during the normal conventional use of the electrical device. In addition, this furthermore ensures that an impact onto the packaging or the device, as is provided for the normal mode, is not necessary in order to activate the presentation mode so that damage to the packaging or to the device can be prevented.

[0012] According to a further embodiment, a toothbrush, which encompasses a power source and a control device, which supplies energy to and controls a display device for emitting an optical and/or acoustic signal, wherein the control device is embodied in such a manner that the display device can be controlled as a function of a rest mode, during which a user-specific optical and/or acoustic signal cannot be emitted and during which the device does not perform any additional electrical personal hygiene operational function. During a normal mode, a user-specific optical and/or acoustic signal can be emitted (wherein the device optionally performs an electrical personal hygiene operational function in normal mode). During a presentation mode, a user-specific optical and/or acoustic signal sequence can be emitted at the display device, wherein provision is made for the activation of the normal mode for a switch or button, which is controlled in such a manner that an activation of the switch or button, which lasts for less than one second, leads to the activation of the normal mode and that for the activation of the presentation mode, provision is made for an activating device or control, which differs therefrom. It is accordingly ensured that the packaging or the device are not damaged in the sales rack, because the activation of the presentation mode is not accompanied by the activation of the normal mode.

[0013] In one embodiment, the control device to control the display device and the device in such a manner that, in the presentation mode, a use of the device can be simulated, during which a user-specific signal can be emitted at the display device without the device performing an electrical personal hygiene operational function. In one example, the electrical personal hygiene function, such as, an electrical
drive of a bristle field of an electric toothbrush is thus operated with the corresponding user-specific signal on the display device (for example, timer function). In another example, the control device is embodied in such a manner that, in the presentation mode, a user-specific signal, which is at least similar for the use in each case, is displayed or can be displayed, respectively, at the display device and the electrical personal hygiene operational function is not operated simultaneously. In an alternative, the display device is activated during the presentation mode and the electrical personal hygiene operational function is also activated simultaneously. In a further alternative, a user-specific optical and/or acoustic signal is not emitted in the normal mode and only the main function, namely the electrical personal hygiene operational function, is performed.

In another embodiment, provision is made for the display device in the presentation mode to be capable of being activated in such a manner that the signals can differ as compared to the normal mode and/or can be displayed in accelerated sequence. On principle, the user-specific signals at the display device, which are typically accompanied by the use of the electrical personal hygiene operation function, are thus also displayed in the presentation mode. However, the customer can more quickly understand the functional range of the electrical device in the sales rack in an advantageous manner by means of the accelerated sequence.

Another embodiment, the activating device for activating the presentation mode may be a switch or a button, which is different in particular from the switch or button for the normal mode. Accordingly, a manual activation is also proposed for the presentation mode, which, however, differs from the activation of the normal mode. This activation can be attained, for example, by inserting the battery, by activating a different switch than the one for the normal mode, by pressing down the switch for the normal mode for a longer period of time or by means of a certain switching sequence of a switch or button.

In a further embodiment, the activation device for activating the presentation mode may be a radio reception device for the wireless activation per radio signal. An activation of the activation device of the presentation mode via radio, such as, for example via Bluetooth or via infrared (this is also understood herein as “radio signal”) or other wireless types of activation, already allow for an activation of the presentation mode, which is simple in its operation.

In a further embodiment, the activating device for activating the presentation mode may be a timer, which triggers a self-activation after a predetermined period of time has lapsed. For example, a predetermined period of time of 30 days can be set in the timer so that an activation of the presentation mode takes place via radio or manually or by means of another measure and that this activation is performed automatically in a time-delayed manner. It is thus prevented that the presentation mode is actively performed as early as during the transport of the device in the packaging, even though the product has not yet arrived in the sales rack of the retailer. This measure thus saves power for operating the display device.

In a further embodiment, a timer to evaluate the lapsed period of time since the last use of the device in normal mode is used to compare this determined time value to a threshold value and to activate the presentation mode when the threshold value is exceeded. This feature is mainly intended as a reminder function for the user of the device; for example, in response to a non-use of the toothbrush or of another electrical device for a certain period so that the device draws attention to itself and performs an electrical function and that the user is reminded to use the device. This electrical reminder function can simply be that an LED blinks for a certain period of time, that the presentation mode is activated, during which, for example, all of the basic functions are displayed at the display device in fast motion, that the personal hygiene function is activated over and over temporarily and/or in certain intervals or that an audio signal or a melody is played back. This reminder function can be repeated in certain chronological intervals after the time threshold value has been exceeded or it can be carried out only once. It is also possible for this reminder function to be activated only at certain times of the day, for example, in the morning and in the evening, when a use of the device, such as, a toothbrush, is suggested.

In a further embodiment, the display device may be a separate part of the device. For example, the device may consist of at least two components, both of which are operated in an electrical manner, wherein one of these separate parts of the device comprises the display device. The functions of the device can be illustrated particularly well in the presentation mode by means of a separate display device. In an alternative, provision is made for the display device in the separate part of the device as well as in the further part of the device or in a further alternative, the display device is part of the device, which also performs the personal hygiene function. For example (without limitation to these examples), an electric toothbrush comprising a separate display device for the lapsed brush time (4-quadrant timer); a one-piece electric toothbrush or a razor are suitable as electrical device. The displayed brush time, the contact pressure of the toothbrush, the battery status, the on/off state or other operationally relevant information are examples for a user-specific signal.

In a further embodiment, the user-specific display functions, which are displayed in the normal mode of the device as well as in the display mode, may differ from those of the normal mode. In particular the functions, which are not required in the sales rack, are thereby at least partially deactivated, intermittently operated or not displayed, respectively, for the presentation mode, provided that the power consumption is too high.

In a further embodiment, the device may be capable of being activated in the display mode in such a manner that the power consumption of the display device is lower than the power consumption of the display device in normal mode. For this, certain functions of the display device are operated only intermittently or not at all as a function of the power consumption thereof, so that a long period of operation of the presentation mode is ensured in the sales rack.

In a further embodiment, the display device in the presentation mode may be capable of being activated in such a manner that it shows segments or image representations on a power-saving liquid crystal display and/or a light emitting diode is operated in a pulsed manner and/or a radio receiver of the display device can be turned off automatically after the activation of the presentation mode. The power consumption of the display device is thus strongly reduced.

In a further embodiment, the display device may be capable of being activated in such a manner that the deactivation of the presentation mode can be activated by removing and re-insertion of the batteries and/or by a specific button combination. For example, the deactivation is carried out by
means of an operation, which the user of the electrical device already performs for the start-up, or by means of an action, which is not necessary for the other customary use of the device.

[0024] According to one embodiment, a method for activating a presentation mode of an electrical device is provided.

[0025] In a further embodiment, the display device may initially be subjected to a test mode, during which all of the functions of the display device are tested and the activation of the presentation mode takes place subsequently. It is accordingly proposed to combine one of the last operations of the manufacturer before to device leaves the production plant with the (time-delayed, if applicable) activation of the presentation mode. Typically, the quality inspection of the display device is such an operation.

[0026] FIG. 1 shows a package 1 in a transparent or partially transparent embodiment, through which the content or parts of the content are visible from the outside through the packaging (see in FIG. 1 the transparent viewing window 2). At least a part of the content is an electrical or electronic device 3, respectively, which has optical or acoustic display means such as light emitting diodes, lamps, transducers or LCD displays. The embodiment of FIG. 1 shows a LCD display for a display device 4, for example, an electric toothbrush 5 (both of which together form the electrical device 3 herein). In one embodiment, a never-ending (fast motion) sequence runs on the display device 4, which draws the attention of the consumer and which satisfies the need for information relating to the production functions by the consumer, who passes the product on the sales rack in the store, for example, without requiring a further impact onto the product or the packaging. The demo sequence or the presentation mode can be activated during the production of the device and then runs until the power source, for example, the batteries or battery cell of the electronic device are used or until the consumer deactivates the sequence after unpacking. This could take place, for example, by transmitting a radio signal, by activating a button or by interrupting the voltage supply.

[0027] An embodiment using the example of the electric toothbrush according to FIG. 3 with so-called smart guide display device 4 could be embodied as follows. The electric toothbrush encompasses an on/off switch 15 on the handle thereof. On the back side thereof, the display device 4 encompasses buttons or switches 16, by means of which the clock can be set. The toothbrush 15 as well as the display device 4 are equipped with batteries. The display device 4 further encompasses a control device for controlling the use-specific signals 6, 13. The toothbrush has a transparent window 2, through which the display device 4 is visible from the outside. In the alternative, the window can also be embodied as a transparent bubble, which allows for the display device 4 to stick out from the packaging. The display device can be operated in a rest mode, in a normal mode, in a presentation mode (and, if applicable, in a test mode). The display device 4 is brought into a test mode during the production process or prior to leaving the production plant. The test mode is triggered by simultaneously pushing and holding both buttons at the back side of the display device 4 during the insertion of the battery. The test mode is used to test the radio transmission and the segments of the I.C. display within the end assembly/quality control of the display device 4. In response to receiving certain commands via radio, all of the segments and all of the light emitting diodes are turned on or off, respectively. Furthermore, the power input of the display device 4 is measured immediately after leaving the test mode. The test mode is ended as soon as at least one of the two buttons is released.

[0028] The test mode can also be used to activate the demo sequence at the end of all of the tests. For this, the device must again be brought into the test mode. If it does not receive any commands during the time in test mode, the “demo sequence” (which corresponds to the presentation mode) is automatically started after the test mode has ended. In the alternative, the demo sequence can always be required in a time-delayed manner after leaving the test mode, for example, after 10 seconds, which are required for the current measurement, or can be activated after 30 days (cooperation of the time control device with an evaluation unit in the display device).

[0029] In another embodiment, any button could be pressed for the activation after leaving the test mode within a certain period (for example, 3 seconds).

[0030] In one embodiment, an activation of the demo sequence takes place via radio. The display device 4 is thereby only equipped with the batteries during the end assembly. A certain command is transmitted by means of a transmitter 14, which triggers the demo sequence in the packaged device, only during the packaging. This has the advantage that the demo sequence, which could be ended due to unfavorable influences (for example, interruption of the battery voltage caused by vibration) in response to the transport of the unpackaged display device 4 from the end assembly line to the packaging line, is only activated in the last production step in the safe transport packaging. This is particularly advantageous when—as is the case herein—the display device 4 already communicates with the toothbrush via radio signals so that a radio signal receiver is thus already provided in the display device 4.

[0031] All of the described types of activation can be used arbitrarily for an electrical device so as to be capable of being combined with one another or so as to be used individually. The demo sequence may operate in such a manner that the substantial functions of the display device 4 are replayed in a recurrent manner, partially in fast motion. FIG. 2 shows all of the illustrations of the presentation mode in a dashed manner and simultaneously. This includes, for example, the force sensor alarm 6, the cleaning modes 7, the cleaning time 8, the quadrant timer 9, the bristle-replacement alarm 10, the time 11, the low battery display 12 and the smileys 13, which are displayed as a reward after a sufficient time of brushing teeth. In one embodiment, the power input during the course thereof is as low as possible so as to ensure several months of function. This also includes that consumers with a high power input, such as, for example, the radio receiver, remain turned off after the activation and that the light emitting diodes are only operated in a pulsed manner.

[0032] The deactivation of the demo sequence at the customer can be carried out by removing and re-insertion of the batteries. The deactivation of the demo sequence can furthermore be carried out additionally or alternatively in response to the activation of one of the two buttons, as it is necessary for setting the time.

[0033] An additional subsequent activation of the demo sequence outside of the production and during the use can be carried out during the normal operation. For this, the display device 4 is initially in the receiving state. In the event that the toothbrush does not receive a radio signal (cooperation of the time control device with an evaluation unit in the display device) for a certain period (for example, 24 hours or also 10 days), the demo sequence activates itself. The user could
be motivated or reminded, respectively, with this function to brush his teeth. This self-activation is also advantageous in response to possible voltage interruptions on the route of transport from the production facility to the retailer.

[0034] The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as “40 mm” is intended to mean “about 40 mm”.

[0035] Every document cited herein, including any cross referenced or related patent or application, is hereby incorporated herein by reference in its entirety unless expressly excluded or otherwise limited. The citation of any document is not an admission that it is prior art with respect to any invention disclosed or claimed herein or that it alone, or in any combination with any other reference or references, teaches, suggests or discloses any such invention. Further, to the extent that any meaning or definition of a term in this document conflicts with any meaning or definition of the same term in a document incorporated by reference, the meaning or definition assigned to that term in this document shall govern.

[0036] While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

What is claimed is:

1. A package for an electrical device that facilitates product demonstration, the package comprising:
   a. a power source;
   b. a display device for displaying a rest mode, a normal mode or a presentation mode; and
   c. a transparent window for viewing the display device;

   wherein the presentation mode includes emission of a user-specific optical and/or acoustic signal sequence by the display device and can be activated without manual impact onto the packaging.

2. The package according to claim 1, wherein for activating the normal mode, the display device comprises a switch or button, which can be controlled in such a manner that an activation of the switch or button, which lasts for less than one second, leads to the activation of the normal mode and that, for activating the presentation mode, provision is made for an activation device or control, which differs therefrom.

3. The package according to claim 1, further comprising a control device for controlling the display device in such a manner that a use of the electrical device can be simulated in the presentation mode, where a user-specific signal can be emitted at the display device without the electrical device performing an electrical personal hygiene operational function.

4. The package according to claim 1, wherein the display device can be controlled in the presentation mode in such a manner that the can be displayed in an accelerated sequence.

5. The package according to claim 2, wherein the activation device for activating the presentation mode includes a radio reception device for wirelessly activating via radio signal.

6. The package according to claim 2, wherein the activation device for activating the presentation mode includes a radio reception device for wirelessly activating via radio signal.

7. The package according to claim 8, wherein the timer cooperates with an evaluation unit in such a manner that the lapsed period of time since the last use of the device in normal mode can be evaluated and the established time value can be compared to a threshold value and the presentation mode can be activated when the threshold value is exceeded.

8. The package according to claim 1, wherein the display device can be controlled in the presentation mode in such a manner that the power consumption of the display device is less than the power consumption of the display device in normal mode.

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