

WIRELESS HIERARCHICAL POWER MANAGEMENT SYSTEM, AND REMOTE
CONTROL DEVICE, CONTROLLED DEVICE, AND REMOTE CONTROL
METHOD THEREOF

BACKGROUND

Field of the Disclosure

[0001] The present invention relates to a wireless power management system, and more particularly to a wireless hierarchical power management system that does not require a network, and a remote control device, a controlled device, and a remote control method thereof.

Description of Related Art

[0002] At present, the indoor power line configuration needs to take into consideration the position of the power switch to facilitate personnel's operation, and the power switch configuration mostly relies on one-to-one control or many-to-one control. For example, indoor lighting usually adopts a power switch coordinated with one or more light fixtures, and multiple power switches coordinated with one or more light fixtures, but this kind of wiring method not only needs to take into consideration the distance from the power line to the light fixture, it is also necessary to increase the distance from the light fixture to the power line of the power switch. Besides, after the configuration is completed, the positions of the power switch and the socket cannot be easily changed, which causes inconvenience.

[0003] In addition, the space in factories or commercial buildings is even larger, and

the power switches are distributed everywhere, which causes that new management personnel often have problems finding the power switches, causing management problems.

[0004] At present, some power management methods are performed through the configuration of a controlled device connected to the network and a host, so that the management personnel can carry out management through a handheld device. Currently, the controlled device adopted in this kind of method is generally preset with a fixed machine code or an identification code before shipping, and the identification code cannot be freely changed by the user. Therefore, this method is likely to cause an expansion problem and cannot achieve a multi-level management method. In addition, signal transmission through the network may not be controlled when the network is disconnected, so the network is likely to become an unstable factor in management.

SUMMARY OF THE DISCLOSURE

[0005] In view of the above-mentioned deficiencies, it is a purpose of the present invention to provide a wireless hierarchical power management system that does not require a network to omit power switches and reduce the use of power lines.

[0006] To achieve the above purpose, the remote control device of the present invention is configured to remotely control a plurality of controlled devices. The remote control device includes an input module for receiving a selection signal; and, a control module configured to, according to a hierarchical group distribution framework including the controlled devices that are customizedly configured by the usage manager and variable as well as settings of the controlled devices, including respective corresponding identification codes customizedly set by the usage manager; and according

to the selection signal, generate a control signal that is controlled in a wireless manner, and manage operation of each of the controlled devices in the mode of hierarchical framework, and performs hierarchical group control based on the hierarchical framework. The remote control device further includes: a screen connected to the control module for displaying each option; and a power supply means connecting the control module and the screen; wherein the control module includes a processing circuit, a wireless signal transmission circuit, and a storage unit, the wireless signal transmission circuit is connected to the processing circuit, and transmits the control signal to the corresponding controlled device based on the selection. The storage unit is connected to the processing circuit for storing the settings of the controlled devices.

[0007] To achieve the above purpose, the present invention also provides a controlled device including a power input line connector; a write interface configured for the usage manager to input a randomly generated identification code of the controlled device; and an operating means connected to the power input connector and the write interface, and includes a signal processing circuit, a switching circuit and a wireless receiving circuit. The signal processing circuit stores the identification code, the switching circuit is connected to the signal processing circuit and the power input connector. The wireless receiving circuit receives a control signal corresponding to the identification code and connects the signal processing circuit, wherein the signal processing circuit adjusts the operation of the switching circuit according to the control signal and outputs the signal.

[0008] To achieve the above purpose, the present invention also provides a wireless hierarchical power management system including the aforementioned remote control device and a plurality of controlled devices.

[0009] To achieve the above purpose, the present invention provides a remote control

method configured to manage the operation of multiple controlled devices in a hierarchical framework. The controlled device management method includes: a receiving step for accepting a selection signal; and a controlling step for, according to a hierarchical group distribution framework including the controlled devices that are customizedly configured by the usage manager and are variable as well as setting of the controlled devices, including respective corresponding identification codes customizedly set by the usage manager; and according to the selection signal, generating a control signal controlled in a wireless manner, and manage operation of each of the controlled devices in the mode of hierarchical framework, and can perform hierarchical group control according to the hierarchical framework.

[0010] In this way, the present invention allows the usage manager to freely and flexibly add and reduce the hierarchical groups without worrying about the layout of power lines, and can control the controlled devices individually or in groups according to the hierarchy. Moreover, the manager does not need to memorize or arrange the identification code of the controlled device, the system can autonomously and randomly generate various identification codes, and can intuitively and easily control the power supply status of each hierarchical group through the remote control device, and wireless control can be achieved without the network system.

[0011] The detailed construction, features, assembly or use of the wireless hierarchical power management system and its remote control device, controlled device and remote control method provided by the present invention will be described in detail in the following embodiments. However, those skilled in the art should understand that the detailed description and specific embodiments of the present invention are merely illustrative of the invention and are not intended to limit the claimed scope of the present

invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a schematic diagram of a hierarchical framework of the present invention exemplified in the form of a school.

[0013] FIG. 2 is a schematic diagram of the appearance of the controlled device of the present invention.

[0014] FIG. 3 is a functional block diagram of the controlled device of the present invention.

[0015] FIG. 4 is a schematic diagram showing the appearance of the remote control device of the present invention.

[0016] FIG. 5 is a functional block diagram of the remote control device of the present invention.

[0017] FIG. 6 is an application schematic diagram of the wireless hierarchical power management system of the present invention.

Reference numerals:

10-12214, 20, 30 Hierarchical group	50, 60-61214 Controlled device
51 Housing	52 Power input connector
53 Output connector	54 Write interface
55 Operating means	551 Power circuit
552 Signal processing circuit	553 Switching circuit
554 Wireless receiving circuit	70 Remote control device
71 Outer casing	72 Control module
721 Processing circuit	722 Storage unit
723 Wireless signal transmission circuit	73 Power supply means

731 Battery	732 Battery circuit
74 Output/input connection interface	75 Screen
76 Input means	761 Local switch key
90 Power line	

DESCRIPTION OF EMBODIMENTS

[0018] Hereinafter, the components of the wireless hierarchical power management system of the present invention and the effects thereof will be described with reference to the respective preferred embodiments in the respective drawings. However, the components, dimensions, and appearance of the wireless hierarchical power management system in the various figures are only used to illustrate the technical features of the present invention, and are not intended to limit the present invention.

[0019] The wireless hierarchical power management system of the present invention does not perform power system management through a network. The network includes, for example, power network, communication network, wireless network (WiFi) and regional network, etc., and the hierarchical framework of the present invention can freely increase and decrease the size of the hierarchical group, and is not constrained by the positions of indoor switches and sockets while reduce the use of power lines.

[0020] The wireless hierarchical power management system of the present invention is configured for controlling power supplies of electrical appliances in schools, shopping malls, sports fields, factories, and households, etc. The electrical appliances includes, for example, sockets, electronic locks, motor switches, light fixtures, speakers, air conditioning facilities, fans, electronic door locks and audio and video equipment. Specifically, control refers to the operations of turning on, off, or adjusting the ratio of power supply to the electrical appliance or actions. The motor switch can be used to

control the forward and reverse rotation of the motor, specifically the motor used for roll-up doors and the electrical curtains.

[0021] Taking schools as an example, as shown in FIG. 1, the figure is a schematic diagram of the hierarchical framework of the present invention. In the embodiment, the area of the hierarchical framework is exemplified in the form of a school, that is, the power supply of all electrical appliances in the school is divided into a hierarchical framework, and the hierarchical framework can include multiple hierarchical groups. Each hierarchical group is exemplified as follows. Departments are defined as the highest hierarchical groups, such as reference numbers 10, 20, and 30. Next, the buildings of the departments are defined as the second-highest groups, such as reference numbers 11, 12, 13, etc. Then, the buildings can be defined as middle-hierarchical groups based on floors, such as reference numbers 121, 122, 123, and so on. Thereafter, the floors can be defined as small-hierarchical groups according to classrooms or space, such as reference numbers 1221, 1222, 1223, and the like. Finally, the classroom or spatial plan can be defined as smaller hierarchical groups such as 12211, 12212, 12213, 12214, etc., and so forth (can be further divided into smaller units of hierarchical groups).

[0022] The hierarchical groups that are not expanded in FIG. 1 can also be planned or defined into a plurality of different hierarchical groups. Therefore, planning of the hierarchical group is not limited to the above. In this embodiment, the hierarchical groups are power supply in an area, and the area includes the number or type of electrical appliances. For example, the smallest hierarchical group 12211 includes one or more sockets, and the smallest hierarchical groups 12212 and 12213 include different numbers of light fixtures. The smallest hierarchical group 12214 includes one or more fans, and the hierarchical group 1221 includes all the electrical appliances of the smallest groups

12211-12214, that is, the power supply of the smallest groups 12211-12214 can be controlled from the hierarchical group 1221.

[0023] The wireless hierarchical power management system includes a plurality of controlled devices 50 and a remote control device 70. The controlled devices 50 are respectively connected to various electrical appliances (not shown) shown in the hierarchical groups of the above-mentioned hierarchical framework to control the operation of the respective electrical appliances, including on or off or actions. Specifically, the group setting of the hierarchical framework is determined according to the difference in the configuration positions of the controlled devices 50 or the function of the controlled device, and any controlled device 50 can be repeated in different groups for group control with different purposes and needs. The application and connection of the controlled device 50 will be described in details later. The remote control device 70 is configured to generate a wireless control signal, and the control signal is configured to control one of the controlled devices 50 or the plurality of controlled devices 50 in order for the controlled one or more controlled devices 50 to adjust the ratio of power output and action according to the control signal.

[0024] The remote control device 70 inherently allows the usage manager to customizedly set and store the hierarchical framework of the controlled device, and can also accept and store the hierarchical framework setting of the controlled device that is customizedly preset by the usage manager and from an external device. The hierarchical framework setting may be, for example, the definition of the controlled devices, the corresponding identification code, and the hierarchical group under its hierarchical framework. A controlled device is defined as a name or code that the user can intuitively identify. The setting of the controlled device may further include a

management permission setting, and the remote control device may perform an authorized management according to the manageable hierarchical group in the set management permission management hierarchical framework. Further, the manageable hierarchical group in the hierarchical framework includes the management permission of the secondary hierarchical group in each hierarchical group.

[0025] The remote control device 70 manages on or off or actuation status of the controlled devices 50 in the form of hierarchical framework according to the settings of the controlled devices, and can perform hierarchical group control based on the hierarchical framework. For example, the remote control device 70 turns on or off a specific controlled device 50 through a control signal. In addition, the remote control device 70 can also perform a local switch control function for directly controlling a controlled device 50 adjacent to the remote control device 70 in the condition of not selecting a specific controlled device adjacent to the remote control device 70. Under this function, the control signal transmission power of the remote control device 70 at this circumstances is lower than the control signal transmission power when a specific controlled device is normally selected for control. This function can also be set to be only used in respective controlled devices in one of the hierarchical groups of the hierarchical framework.

[0026] As shown in FIG. 2 and FIG. 3, FIG. 2 is a schematic diagram of the appearance of the controlled device 50, and FIG. 3 is an assembly block diagram showing the operating means of the controlled device 50. The controlled device 50 includes a housing 51, a power input connector 52, an output connector 53, a write interface 54, and an operating means 55. The operating means 55 is disposed within the housing 51. The power input connector 52, the output connector 53, and the write

interface 54 are connected to the operating means 55, respectively. The power input connector 52 is connected to the power line. The output connector 53 is connected to the power input terminal of the electrical appliance.

[0027] The operating means 55 includes a power circuit 551, a signal processing circuit 552, a switching circuit 553 and a wireless receiving circuit 554. The power circuit 551 is connected to the power input connector 52 and the signal processing circuit 552. The switching circuit 553 is connected to the signal processing circuit 552, the power input connector 52, and the output connector 53. The wireless receiving circuit 554 is connected to the signal processing circuit 552 and receives a control signal corresponding to the identification code.

[0028] Specifically, the signal processing circuit 552 adjusts the operation of the switching circuit 553 according to the control signal and outputs the signal for controlling the ratio of the power output of the power line to the output connector 53, or making the switching circuit to generate an action output of an appliance product. The ratio includes not outputting power, outputting all of the power or outputting a specific percentage of power. The outputting of a specific percentage of power supply can be achieved through a phase control method or other methods, which are well known in the field and will not be described.

[0029] The signal processing circuit 552 is connected to the write interface 54, and can store a random setting identification code that is received through the write interface and customizedly set by the usage manager. The identification code in signal processing circuit 552 can also be deleted and rewritten into another identification code. In addition, in the present embodiment, when receiving the assigned identification code, the controlled device 50 does not need to send the identity information of the controlled

device in advance, and can directly receive the randomly assigned identification code to which it belongs.

[0030] As shown in FIG. 4 and FIG. 5, FIG. 4 is a schematic diagram showing the appearance of the remote control device 70, and FIG. 5 is an assembly block diagram of the remote control device 70. The remote control device 70 includes an outer casing 71, a control module 72, a power supply means 73, an output/input connection interface 74, a screen 75, and an input means 76 as an input module. The control module 72 and the power supply means 73 are provided in the outer casing 71, the control module 72 is connected to the power supply means 73, the output/input connection interface 74, the screen 75, and the input means 76. The input means 76 can be a keyboard, a key, a microphone, a touch module, etc., wherein the touch module can form a touch screen with the screen 75 for input and display.

[0031] The power supply means 73 is also connected to the screen 75 and includes a battery 731 and a battery circuit 732 connected to the battery 731 to supply the power required for the operation of the remote control device 70.

[0032] The control module 72 manages the hierarchical group according to the management permission, and includes a processing circuit 721, a storage unit 722, and a wireless signal transmission circuit 723. The processing circuit 721 is connected to the power supply means 73, the storage unit 722, the input means 76, the screen 75, and the wireless signal transmission circuit 723. The storage unit 722 is configured to store the settings of the controlled devices, the settings include a hierarchical framework, identification codes of the controlled devices, and a name (identity information) corresponding to the identification code. In addition, the storage unit 722 also stores a management permission. The management permission is a range defined as

controllable by the remote control device 70 according to the hierarchical framework, and the range refers to the number of hierarchical groups. The wireless signal transmission circuit includes an antenna and an RF circuit for transmitting and receiving signals.

[0033] The processing circuit 721 performs hierarchical group management according to the management permission, and generates a control signal according to the input command (selection signal) of the input means 76. The wireless signal transmission circuit 723 transmits and receives the control signal. The hierarchical framework is the framework shown in FIG. 1, providing the remote control device 70 with different management permissions to enable the remote control device 70 to perform power management in accordance with its specified permissions, as exemplified in details in FIG. 6. In other words, the number of the remote control device 70 in the hierarchical framework may be plural.

[0034] In addition, the processing circuit 721 includes an identification code generating module for the usage manager to customizedly set the identification code of each controlled device, and executes the identification code generating module to randomly generate the identification code, which is randomly generated by the module itself through random numbers. When there is up to tens of millions sets of the basis of random numbers, each identification code can hardly be identical. In this embodiment, the identification code of the signal processing circuit of the controlled device is written by first connecting the write interface of the controlled device to the output/input interface 74 of the remote control device 70. Then, the processing circuit 721 writes the identification code randomly generated by the identification code generating module into the signal processing circuit of the controlled device. Furthermore, the user can set the

name (identity information) of the corresponding controlled device through the input device 76 of the remote control device 70, in this way, the controlled device is re-defined.

[0035] Similarly, the identification code generating module can also delete the identification code of the signal processing circuit of the controlled device. Therefore, the user can install the redefined controlled device into the newly planned hierarchical group to manage the power supply of the newly planned hierarchical group. Based on the above configuration, it can be seen that the core function of the control module disclosed in this embodiment is to, according to the hierarchical group distribution framework including the controlled devices that are customizedly configured by the usage manager and are variable as well as setting of the controlled devices, including respective corresponding identification codes that are customizedly set by the usage manager; and according to the selection signal, generate a control signal that can be controlled in a wireless manner, and manage operation of each of the controlled devices in the mode of hierarchical framework, and performs hierarchical group control according to the hierarchical framework. Moreover, such core control behavior can be implemented by a software that performs the above-mentioned core function coordinated with a common hardware.

[0036] Although, in this embodiment, the identification code is written into the controlled device through the remote control device 70, the identification code can also be written into the controlled device through other means, for example, set by the computer and written by the computer. Therefore, writing the identification code is not limited to use of the remote control device, and the writing action can be performed in a wireless manner. Moreover, the hierarchical framework setting of the controlled device

may also be input by using a computer, a mobile phone or a PDA, and completely input setting of the hierarchical framework of the controlled devices is transmitted to the remote control device through the output/input connection interface 74, and stored in the storage unit of the remote control device. Therefore, the setting input of the hierarchical framework of the controlled device is not limited to be performed the remote control device itself. When the name is inputted, only the name of the controlled device needs to be inputted, and it is not required to input the identification code, so the user can intuitively change the name. In other words, the output/input connection interface 74 can directly transmit the identification code to the corresponding controlled device without the identity information of the controlled devices, or configured for inputting the setting of the controlled devices. The identity information is, for example, a name or a code that is customizedly set by the user. Specifically, the method of transmitting to the remote control device through the output/input connection interface 74 may be in a wired or wireless manner, and which is a known technique, and therefore will not be described herein.

[0037] As shown in FIG. 6, the remote control method of the present invention includes: first, setting a configuration location or function of the controlled devices 60-61214 to establish the hierarchical framework, and the hierarchical framework defines the relationship between the hierarchical groups to which the controlled devices belong. In this step, the user first defines each controlled device. Then, the usage manager customizedly set the identification codes of the controlled devices. In this step, the user can randomly generate random numbers through the above-mentioned method to establish the identification code of each controlled device, and establish the name (definition) corresponding to the controlled device through the remote control device 70,

thereby completing and storing the setting (i.e., the name and identification code of the controlled device and the hierarchical group to which the controlled device belong) of the controlled device. Then, the selection control of the remote control device 70 is accepted, and the operation of the controlled devices 60-61214 is controlled through the control signal of the remote control device according to the hierarchical framework and the identification codes. In this step, the user controls power supply or operation status of each hierarchical group through the remote control device 70. Therefore, when the receiver is randomly increased or decreased, the receiver can be increased and decreased through the remote control device itself or through an external computer. Therefore, the core of the remote control method disclosed in this embodiment includes: a receiving step for accepting a selection signal; and a controlling step for, according to a hierarchical group distribution framework including the controlled devices that are customizedly configured by the usage manager and variable as well as settings of the controlled devices, including respective corresponding identification codes customizedly set by the usage manager; and according to the selection signal, generating a control signal that is controlled in a wireless manner, and managing operation of each of the controlled devices in the mode of hierarchical framework, and performing hierarchical group control based on the hierarchical framework.

[0038] Further, the remote control device 70 has a corresponding management permission. For example, the remote control device 70 having the highest management permission can manage all of the controlled devices. The remote control device 70 having medium management permission can each of the controlled devices in the hierarchical groups 11, 12, 13, respectively, that is, the remote control device 70 of the hierarchical group 12 can control the controlled devices 611-61214, but not including the

controlled devices 60 and 62. Similarly, the management permission of the remote control device may cover each floor or other smaller hierarchical groups, so the division of the management permission is not limited to the description of the embodiment. In other words, for a group that is not authorized to a certain remote control device, the remote control device will not be able to control the same, so that different users having different remote control devices can perform management with different permissions under the same hierarchical framework shared by each of the remote control devices. In addition, each management permission setting can also be set to be valid at a specific time.

[0039] Each of the controlled devices 60-61214 in FIG. 6 is mounted on the power line 90 and located at the front end of the appliances represented by the respective hierarchical groups 11-12214 to control the power supply status of each of the hierarchical groups 11-12214. For example, the user selects to turn off the power supply of the hierarchical group 12211 by using the input means of the remote control device 70. Under the circumstances, an emit control signal of the remote control device 70, and then all of the wireless receiving circuits of the controlled devices within the emitting range of the remote control device 70 receive the control signal corresponding to its identification code, that is, only the signal processing circuit of the controlled device 61211 drives the switching circuit to turn off the power supply to the hierarchical group 12211 according to the control signal, that is, all the sockets belonging to the hierarchical group 12211 will not have power, and other controlled devices are not correspondingly controlled.

[0040] Furthermore, the invention disclosed in the embodiment may further include a local direct control function of a so-called local switch control function. That is, as

shown in FIG. 4, various keys included in the input means 76 of the remote control device 70 may further be additionally provided with local ON/OFF keys 761. In the embodiment, when the remote control device 70 is located in the room 201 1221 on the second floor 122, and the remote control device 70 performs the local switch control function, the control signal of the remote control device 70 emits a control signal to all of the controlled devices under a specific selected hierarchy, but the transmission power at the circumstances is lower than the transmission power when a specific controlled device is normally selected. Therefore, the control signal in the circumstances will only be effective in the region of the room 201 1221 on the second floor 122, and limited to the controlled device in the hierarchical group. Under the circumstances, the remote control device 70 can directly control the specific controlled device adjacent to the remote control device without selecting a specific controlled device adjacent to the remote control device, for example, controlling the on or off status of a controlled device 61211 adjacent to the remote control device 70. In addition, the distance of adjacency defined in the embodiment is about 1 to 3 meters. In fact, the distance of adjacency is not limited to the embodiment. Besides, the number of the controlled devices that are controlled depends on the actual effective distance range of the wireless control signal, and depends on the selected hierarchical groups. Certainly, in a modified embodiment, regardless which hierarchical group is currently selected, the controlled device at the nearest distance is set to effective only based on the distance. Under the circumstances, the effective distance of the control signal of the local switch function needs to be properly adjusted.

[0041] In this embodiment, the control signal of the remote control device 70 is preferably an RF signal, and the RF signal has better transmittance and can be

transmitted to a long distance, so that a larger range can be covered. Moreover, the RF signal does not need to be established on the network framework, so the configuration is relatively simple and direct, and the situation of being hacked is even unlikely to occur. More specifically, combined with that the identification code of the embodiment is randomly generated by the control device with random numbers, and thousands of random coding can be included, the controlled devices that require safety considerations can benefit more from the present invention.

[0042] Finally, it is emphasized that the components disclosed in the foregoing embodiments of the present invention are merely illustrative, and are not intended to limit the scope of the present invention. The substitution or variation of other equivalent components should also be covered by the scope of the present invention.

[0043] Industrial Applicability

[0044] In summary, the controlled device uses the identification codes that are random numbers provided by the manager through the remote control device without requiring preset coding. Thus, the wireless hierarchical power management system of the present invention is more flexible than the conventional one and is easy to expand, and can reduce the probability of repetition of identification code. Furthermore, the manager can create a corresponding management range by the permission limitation of the remote control device, and can also perform power supply control of the hierarchical group through the remote control device, thereby improving the shortcomings of the conventional approach which needs to search for the corresponding switch and reducing the use of the power line.

WHAT IS CLAIMED IS:

1. A remote control device characterized in remotely controlling a plurality of controlled devices, the remote control device comprising:

an input module configured to accept a selection signal; and

a control module configured to allow a usage manager to set a setting containing a management menu configuration in which each of the controlled devices is arranged in a hierarchical group framework, and respective corresponding identity identification codes of the controlled devices generated by the usage manager; such that the control module generates a control signal containing the identity identification code of the selected controlled device according to the setting and the selection signal, and directly transmits the control signal to each of the controlled devices in a wireless manner without a network path, the control signal is identified and received by a controlled device having a corresponding identification code to manage operation of the controlled device having the corresponding identification code, and can perform the same controlling action on each of the controlled devices in a selected hierarchical group based on the hierarchical group framework.

2. The remote control device of claim 1, characterized in further comprising:

a screen connected to the control module for displaying various options; and

a power supply means, connected to the control module and the screen, wherein the control module comprises a processing circuit, a wireless signal transmission circuit and a storage unit, the wireless signal transmission circuit is connected to the processing circuit for transmitting the control signal to each of controlled devices, the storage unit is connected to the processing circuit for storing the setting.

3. The remote control device of claim 1, characterized in that the setting further

comprises a group code to which the controlled device belongs, and the identity identification codes and the group code to which the controlled device belong are randomly generated.

4. The remote control device of claim 1, characterized in that the control module further comprises an identification code generating module configured to randomly generate the identity identification codes of the controlled devices after the setting of the management menu configuration having the hierarchical group framework is completed to be written into each of the corresponding controlled devices.

5. The remote control device of claim 1, characterized in that the management menu is configured as a specific hierarchical group menu configuration providing controllable permission with respect to a specific hierarchical group in the hierarchical group framework, such that the control module controls actions of the controllable controlled devices according to the specific hierarchical group authorized by the user.

6. The remote control device of claim 1, characterized in further comprising an output/input connection interface for directly writing the identity identification code of the controlled device into the corresponding controlled device without the identity information of the controlled devices, so that the corresponding controlled device has the identity information and is configured to input/output the settings.

7. The remote control device of claim 1, characterized in that the control module further comprises a local switch control function for directly controlling the specific controlled device adjacent to the remote control device among the controlled devices in the management menu under the hierarchical group framework.

8. The remote control device of claim 7, characterized in that a control signal transmission power of the local switch control function is lower than a control signal

transmission power when the specific controlled device is selected normally.

9. The remote control device of claim 7, characterized in that the local switch control function is limited to a controlled device in a specific hierarchical group of the hierarchical framework.

10. A controlled device, characterized in comprising:

a power input connector;

a write interface for a user manager to set an identification code of the controlled device that is generated in a random manner; and

an operating means connected to the power input connector and the write interface, and comprising a signal processing circuit, a switching circuit and a wireless receiving circuit, wherein the signal processing circuit stores the identification code, the switching circuit is connected to the signal processing circuit and the power input connector, the wireless receiving circuit receives a control signal containing the corresponding identification code and is connected to the signal processing circuit, wherein the signal processing circuit adjusts operation of the switching circuit according to the control signal and outputs the signal.

11. The controlled device of claim 10, characterized in that the controlled device does not need to send its own identity information before setting its identification code.

12. The controlled device of claim 10, characterized in that the write interface is further configured for the usage manager to input a randomly generated group code to which the controlled device belongs, and the signal processing circuit stores the group code to which the controlled device belongs.

13. The controlled device of claim 10, characterized in that the controlled device is one of a switch, a socket, an electronic lock, a light fixture, a speaker, air conditioning

facility, a fan, an electronic door lock, an audio and video equipment and a motor switch, and the motor switch is applied to one of roll-up doors and electric curtains.

14. A wireless power management system, characterized in comprising:
a plurality of remote control devices claimed in any one of claims 1 to 9; and
a plurality of controlled devices claimed in any one of claims 10 to 13; wherein the plurality of remote control devices comprise a first remote control device and a second remote control device, the first remote control device has a first hierarchical group framework menu configuration, the second remote control device has a second hierarchical group framework menu configuration, and the second hierarchical group framework menu configuration is a menu configuration of a part of the hierarchical groups in the first hierarchical group framework menu configuration, thereby performing permission management on the part of the hierarchical groups.

15. A remote control management method characterized in managing operation of a plurality of controlled devices, the management method comprising:

a receiving step for accepting a selection signal; and
a controlling step for, according to the selection signal and a management menu configuration in which each of the controlled devices is arranged in a hierarchical group framework as well as setting of the controlled devices, comprising respective corresponding identity identification codes generated by a usage manager, generating a control signal containing the identity identification code of the selected controlled device; and directly transmitting the control signal to each of the controlled devices in a wireless manner without a network path, wherein the control signal is identified and received by a controlled device having a corresponding identification code, thereby managing operation of the controlled device having the identification code, and performing the

same control action on each of the controlled devices in a selected hierarchical group based on the hierarchical group framework.