



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
29.07.2009 Bulletin 2009/31

(51) Int Cl.:
F24F 11/00 (2006.01) F24F 5/00 (2006.01)

(21) Application number: **08252063.6**

(22) Date of filing: **16.06.2008**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA MK RS

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(30) Priority: **28.01.2008 KR 20080008654**

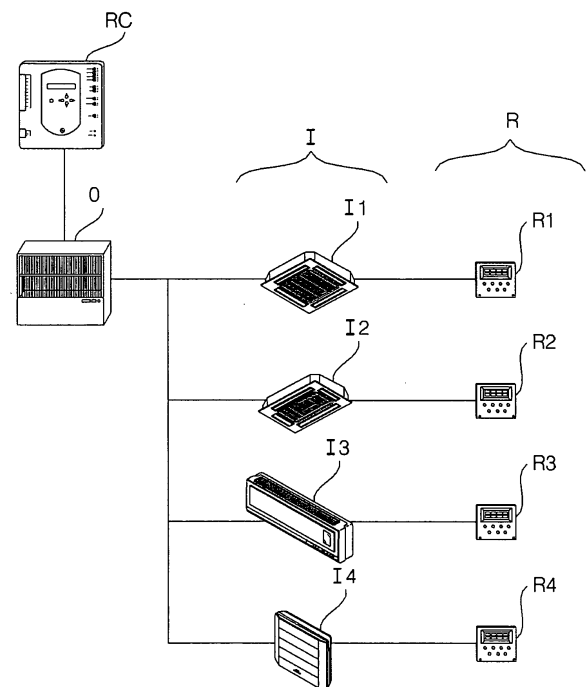
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(54) **Multi-type air conditioner and operating method for the same including remote controller for assigning names to the indoor units**

(57) An air conditioner and an operating method thereof are disclosed. A remote controller searches addresses of connected plural indoor units, assigns addresses of the respective indoor units based on the address data received from the indoor units, and automatically assigns names of the respective indoor units to display the indoor units so that the indoor units can be easily distinguished when being controller remote, the names of the indoor units are automatically inputted without manual manipulation. Therefore, a user can conveniently use and effective management of the plural indoor units is remarkably improved.

Fig.1



Description

FIELD OF THE INVENTION

[0001] The present invention relates to an air conditioner and an operating method for the same, and more particularly, to an air conditioner for automatically searching a plurality of indoor units to automatically set addresses and names based on address data received from the respective indoor units, and an operating method for the same.

BACKGROUND

[0002] Generally, an air conditioner is provided to perform cooling, heating, and air purification and is installed to discharge chilled or hot air into indoor and to purify indoor air for the purpose of making more comfortable indoor environment to human beings. The air conditioner is operated by which an indoor unit having a heat exchanger and an outdoor unit having a compressor and a heat exchanger are separately controlled and an electric power to be supplied to the compressor and the heat exchanger is controlled.

[0003] In the air conditioner, a plurality of indoor units can be connected to a single outdoor. The outdoor unit is driven corresponding to the number of driven indoor units to supply refrigerant to the indoor units based on required operating mode so that the air conditioner is operated in a cooling mode or a heating mode.

[0004] The air conditioner further includes a remote controller for integrally controlling the plurality of indoor units and the outdoor unit from a remote place so that the indoor units and the outdoor unit are monitored and controlled.

[0005] In this case, the remote controller assigns a centralized controlling address. In a case of automatically assigning an address to an indoor unit in a conventional method, it is not easy to check what indoor units are indicated by a list displayed on a screen of the remote controller.

[0006] In order to solve the problem, names of the respective indoor units listed in the remote controller are inputted to distinguish the indoor units, but it is inconvenient because the list of the indoor units must be matched with actual indoor units.

SUMMARY OF THE INVENTION

[0007] It is an object of the present invention to provide an air condition, when a remote controller assigns addresses of a plurality of indoor units, for setting the addresses of the indoor units based on address data received from the respective indoor units when searching the indoor units and for automatically assigning a name of a corresponding indoor unit so that it is convenient to assign the addresses, for the remote controller to easily distinguish the indoor units, and convenience can be en-

hanced, and an operating method thereof.

[0008] The present invention provides an air conditioner, comprising: at least one outdoor unit (O); a plurality of indoor units (T) connected to the outdoor unit (O); and a remote controller (RC) for controlling the outdoor unit (O) and the indoor units (I), for sequentially requesting address data to the plural indoor units (I) to be connected, for assigning address information contained in the address data as centralized controlling addresses of the indoor units (I), and for automatically assigning and displaying names of the indoor units (I) based on the address information.

[0009] Furthermore, the present invention provides an operating method of an air conditioner, comprising: searching at least one connected indoor unit when an address assigning command is inputted to a remote controller (RC) for centralized-controlling an outdoor unit (O) and an indoor unit (I), and requesting address data to any one indoor unit (I) of the searched indoor units to receive the requested address data from the indoor unit (I); assigning address information contained in the address data as a centralized controlling address for the indoor unit (I) and automatically assigning a name of the indoor unit (I); and displaying the name of the indoor unit (I) on a screen and communicating with the indoor unit (T) using the centralized controlling address.

[0010] According to the air conditioner and the operating method thereof according to the present invention, the addresses are assigned based on the address data received from the plurality of indoor units by which the remote controller searches the indoor units and the names of the indoor units are automatically assigned. Therefore, it is not required to match actual indoor units with the list of the indoor units of the remote controller so that undesired efforts for that can be reduced. Since the remote controller easily distinguishes the respective indoor units, a user can conveniently use and the control and management of the plural indoor units are remarkably improved.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this application, illustrate embodiment(s) of the invention and together with the description serve to explain the principle of the invention. In the drawings:

FIG. 1 is a view showing the construction of an air conditioner in accordance with an embodiment of the present invention;

FIG. 2 is a block diagram showing a configuration of a remote controller of the air conditioner according to an embodiment of the present invention;

FIG. 3 is a block diagram illustrating the structure of an indoor unit of an air conditioner according to an embodiment of the present invention;

FIG. 4 is a block diagram illustrating a configuration of a local controller of an air conditioner according to an embodiment of the present invention;
 FIG. 5 illustrates an example of a control screen of the remote controller in FIG. 3;
 FIG. 6 is a front view illustrating the configuration of the local controller in FIG. 5; and
 FIG. 7 is a flowchart illustrating an address assigning method of an air conditioner according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0012] Hereinafter, embodiment of the present invention will be described with reference to the accompanying drawing in detail.

[0013] FIG. 1 is a view showing the construction of an air conditioner in accordance with an embodiment of the present invention.

[0014] The air conditioner according to the embodiment of the present invention, as illustrated in FIG. 1, includes a remote controller RC, an outdoor unit O, indoor units I (I1 to I4), and local controllers R (R1 to R4).

[0015] At least one of the indoor units I is installed and includes an indoor heat-exchanger, an indoor fan, an expansion valve in which refrigerant supplied from the outdoor unit is expanded, and a plurality of temperature sensors.

[0016] The outdoor unit O is connected to the indoor units I, and includes a compressor for receiving and compressing the refrigerant, an outdoor heat-exchanger for performing heat-exchange between the refrigerant and outdoor air, an accumulator for extracting gas refrigerant from the supplied refrigerant and for supplying the extracted gas refrigerant to the compressor, and a four-way valve for selecting a passage for the refrigerant corresponding to a heading operation. The outdoor unit O further includes a plurality of pressure sensors for measuring a pressure of the refrigerant discharged from the compressor, temperature sensors, a plurality of sensors, valves, and an oil recovery, but the description for the components will be omitted in the following description.

[0017] The outdoor unit O and the indoor units I are connected through a refrigerant pipe to perform a cooling operation or a heating operation based on the flow of the refrigerant between the outdoor unit and the indoor units. In this case, the outdoor unit O and the indoor units I transmit and receive data in a preset communication method.

[0018] The outdoor unit O is driven by any one demand of at least one of the plural indoor units, and the number of the outdoor units and the number of compressors installed in the outdoor units are changed when the cooling capacity is changed in response to the driven indoor units.

[0019] The remote controller RC is connected to the indoor units I and the outdoor unit O and transmits and

receives data in a preset communication method to monitor and control the indoor units I and the outdoor unit O. In this case, a plurality of remote controllers RC may be connected to the indoor units I and the outdoor unit O or may be connected to each other through Internet.

[0020] The local controller R is connected to at least one of the indoor units I1 to I4, changes the operation mode of the indoor unit according to an input by a user, and receives and outputs the operation status of the corresponding indoor unit. Wire local controller connected to the indoor units may be used as the local controllers R, alternately wireless local controller may be used according to circumstances.

[0021] In this case, the air conditioner may further include a ventilation device and an air purifier in addition to the indoor units and the outdoor unit, but the description will be omitted. Although an example in which a single outdoor unit is connected and the local controller R is connected to the single indoor unit is described, the number of the outdoor units connected to the air conditioner, the number of the indoor units, and the number of the indoor units connected to a single local controller R may be changed.

[0022] FIG. 2 is a block diagram showing a configuration of a remote controller of the air conditioner according to an embodiment of the present invention.

[0023] The remote controller RC, as illustrated in FIG. 2, includes a control unit 30, a data unit 40, a communication unit 60, an input unit 10, an output unit 20, and an address assigning unit 50.

[0024] The input unit 10 includes at least one button or a touch input unit or both of the button and the touch input unit according to circumstances. The input unit 10 applies a user's command inputted by manipulating the above-mentioned input unit to the control unit 30.

[0025] The output unit 20 includes a display device for outputting texts and images, and outputs the user's command inputted through the input unit 10 to a screen corresponding to an operation corresponding to the inputted user's command. Moreover, the output unit 20 displays the operation status of the plural indoor unit I1 to I4 received through the communication unit 60, and displays a control menu and a schedule setting menu for controlling the indoor units I1 to I4 on the screen.

[0026] The output unit 20 may further include a speaker for outputting an effective sound, an alarming sound, and vocal guide, and a lamp to be turned on and off in addition to the display device.

[0027] The data unit 40 stores data inputted by the input unit 10, data received from the indoor units I1 to I4 and the outdoor unit O through the communication unit 60, control data for controlling a unit including an indoor unit and an outdoor unit, and setting data for controlling the outdoor unit and the indoor units. Moreover, the data unit 40 stores schedule data for the indoor units, the outdoor unit, and another unit to be set by the control unit 30 in response to the user's command of the input unit 10. The data unit 40 stores control unit address data in

which address data of the respective indoor units match with the names of the indoor units.

[0028] The communication unit 60 includes a plurality of communication modules for transmitting and receiving data in the wire and wireless communication lines, and transmits and receives the data from and to the outdoor unit O and the indoor units I1 to I4 in a desired communication line to apply the data to the control unit 30.

[0029] The control unit 30 controls the data transmitted and received through the communication unit 60 and controls data to be inputted and outputted such that data inputted by the input unit 10 are outputted through the output unit 15. In this case, the control unit 30 creates a control command for controlling the indoor units and the outdoor unit in response to the user's command inputted from the input unit 10 and transmits the control command to the communication unit 60.

[0030] In addition, the control unit 30 sets a schedule for the operations of the respective indoor units and the outdoor unit and transmits the control command through the communication unit 60 such that the respective indoor units or the outdoor unit are driven according to the assigned schedule. In this case, the control unit 30 controls that a plurality of schedules is set for the respective indoor units and the outdoor unit, the indoor units are driven according to the schedules, and a corresponding schedule is stored in the data unit 40.

[0031] When an address setting command or an address searching command is inputted, the control unit 30 searches a connected indoor unit I and controls the address assigning unit 50 such that an address is assigned. Particularly, when the air conditioner is initially driven, when the remote controller is initially driven, or when information for the connected indoor unit is not registered, the centralized controlling address for the communication with and the transmission of a control signal to the respective indoor units is assigned.

[0032] The address assigning unit 50, in response to the control command from the control unit 30, searches a connected indoor unit I and assigns addresses to the respective indoor units based on the address data received from the plural indoor units I. In this case, the respective indoor units are assigned with addresses in advance and the addresses are stored as the address data, and the address assigning unit 50 assigns the centralized controlling address of a corresponding indoor unit according to the address data received from the indoor unit.

[0033] Moreover, the address assigning unit 50 calls control unit address data stored in the data unit 40, and compares the received address data with an address list of the control unit address data to automatically assigns a name matched to the address data as a name of the corresponding indoor unit.

[0034] In this case the address assigning unit 50 accesses all the indoor unit of which connection is detected in peer to peer to receive the address data from the respective indoor units and to assign addresses, and re-

peats the above operation to finish the assigning of addresses to the plural indoor units.

[0035] The address assigning unit 50 sequentially accesses the plural indoor unit in peer to peer manner to assign the addresses, stops the assigning of addresses to the corresponding indoor unit when a certain indoor unit does not respond for a predetermined time, and tries to assign an address of a next indoor unit. After assigning an address of a final indoor unit, the address assigning unit 50 checks whether there is an indoor unit of which address is not assigned and tries to assign an address to the corresponding indoor unit again.

[0036] The address assigning unit 50 determines that the corresponding indoor unit has an error when a specific indoor unit is not assigned with an address even after performing the assigning of addresses for a predetermined times, and displays the error or excludes the corresponding indoor unit from targets to be controlled by the remote controller RC.

[0037] Here, the address assigning unit 50 transmits an address data request signal to the indoor unit, assigns address information contained in the address data to be received from the indoor unit as a centralized controlling address of a corresponding indoor unit, and automatically assigns names of the respective indoor units based on the control unit address data. In this case, the address data received from the indoor unit include the address information assigned to the indoor unit, identification information of the indoor unit, and information for a kind of the unit.

[0038] For example, when an address 01 is assigned to the first indoor unit I1 and is stored, the remote controller RC accesses the first indoor unit I1 to request address data, then the first indoor unit I1 transmits the stored address data to the remote controller RC. At this time, the address assigning unit 50 assigns the address of the first indoor unit I1 as '01' according to the address information '01' contained in the received address data. Moreover, the address assigning unit 50 searches the address '01' from the control unit address data and assigns the name assigned to the address '01' as the name of the first indoor unit I1 when there are matched data. In this case, when the name of the indoor unit assigned to '01' is '3-20', the name of the first indoor unit I1 becomes '3-20'. As the occasion demands, the kind of the unit may be assigned. That is, the ventilation device is assigned with a 'ventilation 3-51'.

[0039] Meanwhile, when there is no data matched with the address information of a corresponding indoor unit in the control unit address data, or when there is address information matched with the corresponding indoor unit but no an assigned name, the address assigning unit 50 may assign a default name or an arbitrary name. moreover, when the control unit address data is not in the data unit 40, the address assigning unit 50 may request the indoor unit I or the outdoor unit O.

[0040] The address assigning unit 50, when the assigning of addresses is completed, transmits a signal for

informing the completion of assigning addresses to the control unit 30, the control unit 30 controls the data unit 40 to store the address information assigned to the respective indoor units. After this, the control unit 30 communicates with the indoor units based on the assigned address information.

[0041] The names of the indoor unit assigned as described above are outputted on a control screen of the output unit 20 as names assigned with a list of the indoor units based on a control command.

[0042] FIG. 3 is a block diagram illustrating the structure of an indoor unit of an air conditioner according to an embodiment of the present invention.

[0043] As illustrated in FIG. 3, the indoor unit I includes an indoor unit control unit 120, an indoor unit communication unit 150, an indoor unit input unit 130, an indoor unit output unit 140, and an indoor unit data unit 110.

[0044] The indoor unit communication unit 150 includes at least one communication module and transmits and receives data from and to the local controller R, the remote controller RC, and the outdoor unit O in a preset communication manner.

[0045] The indoor unit input unit 130 includes at least one input device in which preset data are inputted by pressing or touching and applies a command inputted from a user to the indoor unit control unit 120. In this case, the indoor unit input unit 130 includes buttons, a switch, and a touch input device of a touch screen.

[0046] The indoor unit output unit 140 outputs an operating mode, an operation setting, and an operation status of the indoor unit. The indoor unit output unit 140 includes a display device for outputting texts. and may further include images, a lamp to be turned on and off, and a speaker for outputting preset sound.

[0047] The indoor unit data unit 110 stores control data for controlling the indoor unit and an address information unit 111 stores address information of the indoor unit communication unit 150 communicating with another unit. In this case, the address information unit 111 stores address data inputted from the indoor unit input unit 130 or the local controller R as well as an outdoor unit assigning address when an address is separately assigned from the outdoor unit.

[0048] The indoor unit control unit 120 controls the address data to be transmitted to the remote controller RC through the indoor unit communication unit 150 when the remote controller RC requests the address data through the indoor unit communication unit 150. At this time, the indoor unit control unit 120 calls and transmits the stored address data from the address information unit 111, and calls and transmits the data in the connected local controller R when there is no data stored in the address information unit 111.

[0049] Moreover, when the assigning of the address is completed by the remote controller RC through the indoor unit communication unit 150, the indoor unit control unit 120 determines the address stored in the address information unit 111 is assigned as the centralized con-

trolling address, and controls the indoor unit communication unit 150 to perform the communication using the stored address for the communication with the remote controller RC. Here, data of an address different from the stored address among the data received from the remote controller RC is discarded, and data of the same address is received such that a predetermined operation is performed.

[0050] FIG. 4 is a block diagram illustrating a configuration of a local controller of an air conditioner according to an embodiment of the present invention.

[0051] As illustrated in FIG. 4, the local controller R includes a local control unit 220, a local controller communication unit 230, a local controller input unit 240, a local controller output unit 250, and a data storage 210.

[0052] The local controller communication unit 230 is connected to the indoor unit according to a communication manner. In this case, when the local controller R is connected to a single indoor unit, data are transmitted to the corresponding indoor unit and data of the indoor unit are received. When the local controller R is connected to plural indoor units, data are received from any one of the indoor units and the data are transmitted to the plural indoor units.

[0053] The local controller input unit 240 includes at least one button to be pressed or a touch input device in which a touch is inputted to input a user's command. In this case, the local controller input unit 240 is able to input data for operation a status of the connected indoor unit. The local controller input unit 240 can input address data for the connected indoor unit.

[0054] When the address data are inputted through the local controller input unit 240, the local control unit 220 transmits the input data to the indoor unit and stores the corresponding data in the data storage 210. In this case, when the indoor unit requests the address data, the local controller control unit 220 transmits the data stored in the data storage 210. At this time, the local control unit 220 provides a menu for inputting the address data.

[0055] The local controller output unit 250 includes a display device for displaying the menu for setting an operation mode of the indoor unit, and outputs an operating status of the indoor unit based on the data received from the indoor unit. In this case, the local controller output unit 250 may further include a lamp and a speaker.

[0056] The data storage 210 stores the address data inputted by the local controller input unit 240 by a control command of the local control unit 220, and stores a screen structure data to be outputted through the local controller output unit 250 of the local controller input unit 240 and control data to be transmitted to the indoor unit.

[0057] FIG. 5 illustrates an example of a control screen of the remote controller in FIG. 3.

[0058] As illustrated in FIG. 5, the remote controller RC displays an operation status of a connected device through the display device of the output unit 20, and provides a control menu such that a control setting for a

corresponding device can be inputted.

[0059] The remote controller RC displays an operation mode, an operation status, setting data, and information on current indoor status by icons 25 of indicating the indoor units using at least one of images, emoticons, texts together with a name 26 of the corresponding indoor unit. In this case, the name of the indoor unit is automatically assigned when the addresses of the respective indoor units are assigned.

[0060] In other words, when to assign an address to the connected indoor unit I, the remote controller RC analyses the address data received from the indoor unit to assign the address information contained in the address data as the centralized controlling address of a corresponding indoor unit, and searches the address information from the stored control unit address data to automatically a name assigned to corresponding address information as a name of the indoor unit and to display the same on the control screen when there is matched data.

[0061] For example, when the second indoor unit I2 is connected and is an indoor unit at a room No. 21, third floor and the address data are received from the indoor unit, the address of the first indoor unit is assigned with '02' according to the address information contained in the address data, and a name such as '3-21' or 'an air conditioner 3-21' is automatically assigned to the corresponding indoor unit when the name assigned to '02' in the control unit address data is '3-21'.

[0062] However, as occasion demands, the displayed name may be changed by the user's input, and the name cannot be changed when a locking mode is set.

[0063] Here, the address data received from the indoor unit I are data inputted by the user by manipulating the indoor unit input unit 130 provided in the indoor unit I or the local controller input unit 240 provided in the local controller R.

[0064] Moreover, in other region of the screen of the remote controller RC, a control menu 22 for changing the setting of an operation mode, temperature, air volume of a selected indoor unit is displayed. In this case, when the ventilation device is further connected to the air conditioner, a ventilation control menu 23 corresponding to the ventilation device may be further displayed.

[0065] FIG. 6 is a front view illustrating the configuration of the local controller in FIG. 5.

[0066] As illustrated in FIG. 6, a plurality of buttons B01 to B38 is provided in the local controller input unit 240 of the local controller R and information on an indoor unit connected to the local controller output unit 250 is displayed.

[0067] In this case, the plural buttons B01 to B38 are function keys and moving keys for setting the operation of the indoor unit and are used as an input unit for inputting information on the indoor unit as occasion demands. The local controller R provides a menu through which a name and characteristics of the connected indoor unit are inputted, the data of the indoor unit are inputted by

combination of the plural buttons. The data inputted by the button of the local controller are stored in the data storage 210 and are transmitted to the indoor unit I to be stored as data of assigning an address.

[0068] The operation of the air conditioner according to the embodiment of the present invention will be described as follows.

[0069] FIG. 7 is a flowchart illustrating an address assigning method of an air conditioner according to the embodiment of the present invention.

[0070] As illustrated in FIG. 7, when the address data of the indoor unit are inputted through the local controller R (S310), the local controller 220 stores the inputted data in the data storage 210 and transmits the data to the indoor unit I through the local controller communication unit 230 (S320).

[0071] Here, the indoor unit I stores the data received from the local controller R as the address data in the indoor unit data unit 110 (S350).

[0072] Meanwhile, when the address assigning command or an address searching command is inputted, the remote controller RC automatically searches a connected indoor unit I (S420). At this time, an address for the communication between the remote controller RC and the indoor unit I is not assigned, the connected indoor unit is searched and address data are received from the respective indoor units.

[0073] Here, the remote controller RC sequentially accesses the searched plural indoor units I and requests address data to the respective indoor unit I (S430). The remote controller RC sequentially accesses the respective indoor units in peer-to-peer manner. In this case, the order of the access may be an order of near communication line or searching but is not limited to this.

[0074] When the remote controller RC is accesses (S360) and the request for the data on the address assign is received, the indoor unit I calls the stores address data and transmits the same to the remote controller RC. The indoor unit I determines whether there are stored address data (S370), and requests the address data to the local controller R when there is no data (S380).

[0075] By doing so, the local controller R calls the stored address data of the indoor unit in response to the request of the indoor unit I (S330) and transmits the same to the indoor unit (S340). When the address data are received from the local controller R (S390), the indoor unit I transmits the address data to the remote controller RC (S400).

[0076] When the address data are received from the indoor unit I (S440), the remote controller RC analyses the address data and assigns the address information as the centralized controlling address of the corresponding indoor unit I. Moreover, the remote controller RC searches data matched to the address information from the control unit address data and automatically assigns the assigned name to the name of the corresponding indoor unit (S450).

[0077] For example, when the address is 01, the re-

mote controller assigns the address as the address of the corresponding indoor unit based on the address data, and searches data matched to '01' to assign the name '3-20' assigned to the data as the name of the first indoor unit 11.

[0078] By doing so, in the control screen of the remote controller RC for the monitoring and the control, the first indoor unit I1, as described with reference to FIG. 5, displays 'air conditioner 3-20'. In this case, the air conditioner indicates the kind of the first indoor unit I1 which can be changed according to the setting.

[0079] When the assigning of the first indoor unit I1 is completed, whether the assigning of all the indoor unit is completed is checked (S460), the next indoor unit is accessed to assign an address and a name of the next indoor unit as described above (S430 to S460).

[0080] Here, when there is an indoor unit which does not respond, the remote controller RC disconnects the access to the corresponding indoor unit after standby for a predetermined time, and accesses the next indoor unit to perform the assigning of an address and a name (S470).

[0081] When there is an indoor unit whose address is not assigned even after the data are requested to all the indoor unit, the data request and the assigning of the address are retried to the corresponding indoor unit, and the corresponding indoor unit is determined to be malfunctioned and is excluded from controlling objects when the response is not received after a predetermined times of the try.

[0082] When a new indoor unit is connected or the indoor unit excluded from the controlling object is searched again, the remote controller RC assigns an address and a name to the new indoor unit in the above-mentioned manner and adds the new indoor unit to the controlling object. Meanwhile, when there is no address data in the indoor unit, the remote controller RC may voluntarily assign an address and a name to the indoor unit.

[0083] When the assigning of the address and the name is completed, the remote controller RC stores the assigned address information and name (S480), and starts the communication with the indoor unit. The respective indoor units I communicate with the remote controller RC using the stored addresses (S410).

[0084] The remote controller RC displays the list of the entire connected indoor unit on the control screen, and communicates with the respective indoor units using the assigned addresses such that the operation status is outputted and the operation of the indoor unit can be controlled. At this time, the automatically assigned names of the indoor units are displayed on the control screen of the remote controller RC.

[0085] Although the air conditioner and the operating method thereof according to the present invention have been described with reference to the embodiment shown in the drawings, these are merely illustrative, and those skilled in the art will understand that various modifications and equivalent other embodiments of the present inven-

tion are possible. Consequently, the true technical protective scope of the present invention must be determined based on the appended claims.

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Claims

1. An operating method of an air conditioner, comprising:

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searching at least one connected indoor unit when an address assigning command is inputted to a remote controller (RC) for centralized-controlling an outdoor unit (O) and an indoor unit (I), and requesting address data to any one indoor unit (I) of the searched indoor units to receive the requested address data from the indoor unit (I);

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assigning address information contained in the address data as a centralized controlling address for the indoor unit (I) and automatically assigning a name of the indoor unit (I); and displaying the name of the indoor unit (I) on a screen and communicating with the indoor unit (I) using the centralized controlling address.

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2. The operating method of an air conditioner of claim 1, further comprising accessing a next indoor unit in peer-to-peer manner when the assigning of an address to the indoor unit is completed, and sequentially requesting address data to assigning an address of the next indoor unit.

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3. The operating method of an air conditioner of claim 2, further comprising performing the assigning of an address to the next indoor unit when a response for the request is not received from the indoor unit (I) for a predetermined time after the request for the address data.

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4. The operating method of an air conditioner of claim 3, further comprising requesting the address data again to a corresponding indoor unit when there is an indoor unit of the searched indoor units, of which response is not received and of which address is not assigned.

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5. The operating method of an air conditioner of claim 4, further comprising displaying the corresponding indoor unit to malfunction and excluding the corresponding indoor unit from a controlling object when the response is not received even after the request is transmitted to the indoor unit, whose response is not received, for a predetermined times.

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6. The operating method of an air conditioner of claim 1, wherein, in the name assigning, the address information contained in the address data is searched

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from stored control unit address data, and a name matched with data to be matched with the address information is assigned to a name of the indoor unit.

7. The operating method of an air conditioner of claim 1, further comprising of the indoor unit of which the address data is requested by the remote controller (RC) transmitting the address data that is inputted and stored in advance to the remote controller, requesting the address data to a connected local controller when there is no address data to transmit the address data received from the local controller to the remote controller. 5
8. The operating method of an air conditioner of claim 7, wherein the address data are inputted by an input device provided in the indoor unit or are received from the local controller. 10
9. An air conditioner comprising: 15
 - at least one outdoor unit (O);
 - a plurality of indoor units (I) connected to the outdoor unit (O); and
 - a remote controller (RC) for controlling the outdoor unit (O) and the indoor units (I), for sequentially requesting address data to the plural indoor units (I) to be connected, for assigning address information contained in the address data as centralized controlling addresses of the indoor units (I), and for automatically assigning and displaying names of the indoor units (I) based on the address information. 20
10. The air conditioner of claim 9, wherein the remote controller (RC) comprises: 25
 - a communication unit (60) for communicating with the plural indoor units (I) and the outdoor unit (O); 30
 - a data unit (40) for storing the address data and a control unit address data containing name information of the indoor units (I); and
 - an address assigning unit (50) for accessing the plural indoor units (I) in peer-to-peer manner with the communication unit (60) to request the address data and assigning addresses and names to the indoor units (I) based on the control unit address data and the address data ; 35
 - a control unit (30) for controlling the address assigning unit (50) in response to an input address assigning command and the assigned name to be displayed on a screen. 40
11. The air conditioner of claim 10, wherein the remote controller (RC) comprises an input unit (10) having at least one input device to be pressed or touched, and an address assigning command is inputted by 45

any one input device of the plural input devices or by a combination of plural input devices.

12. The air conditioner of claim 9, wherein each of the indoor units (I) comprises: 5
 - an indoor unit data unit (110) for storing the address data to be received from a connected local controller (R) or a provided input device; and
 - an indoor unit control unit (120) for transmitting the address data to the remote controller (RC) when the remote controller (RC) requests the address data, for requesting the address data to the local controller (R) when there is no address data in the indoor unit data unit (110) such that the address data received from the local controller (R) is transmitted to the remote controller (RC). 10
13. The air conditioner of claim 12, wherein the local controller (R) comprises: 15
 - a local controller input unit (240) provided with at least one input device to be pressed or touched for inputting the address data; and
 - a local controller control unit (220), in response to the request from the indoor units (I), for controlling the address data to be transmitted to the indoor units (I). 20

a local controller input unit (240) provided with at least one input device to be pressed or touched for inputting the address data; and a local controller control unit (220), in response to the request from the indoor units (I), for controlling the address data to be transmitted to the indoor units (I).

Fig.1

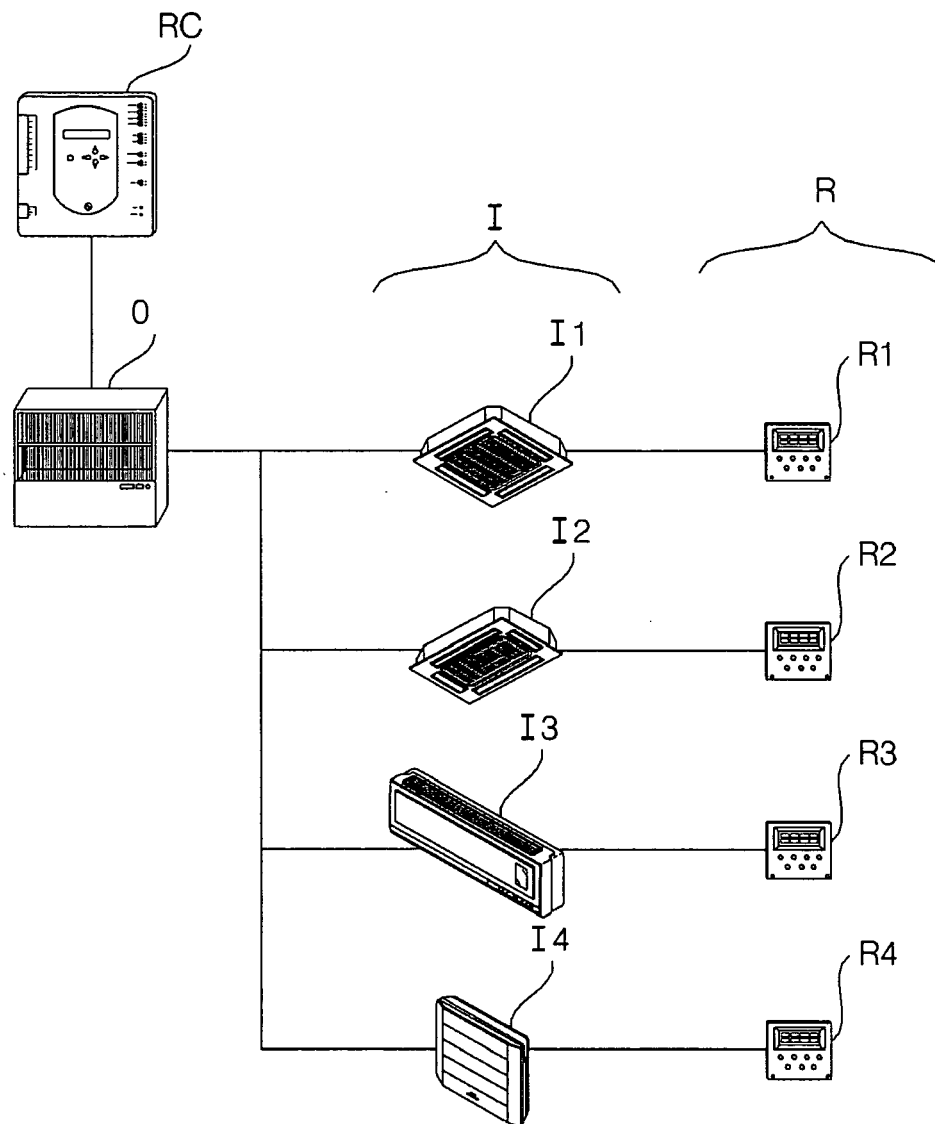


Fig.2

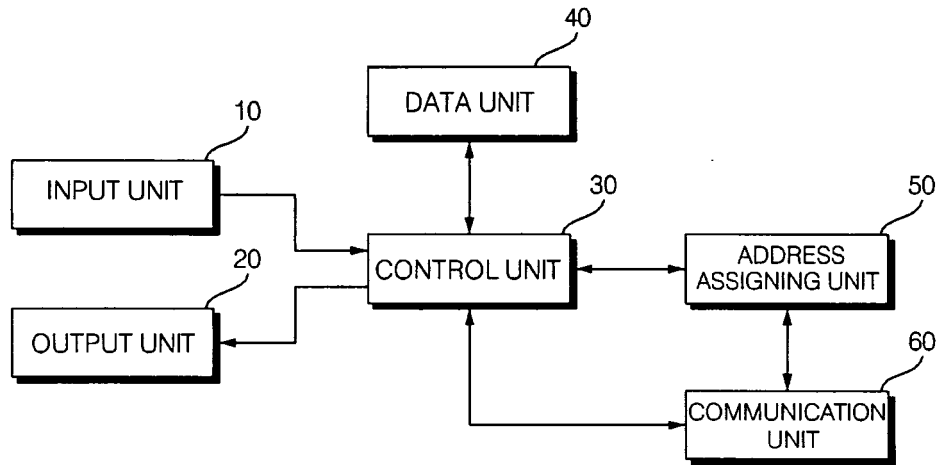


Fig.3

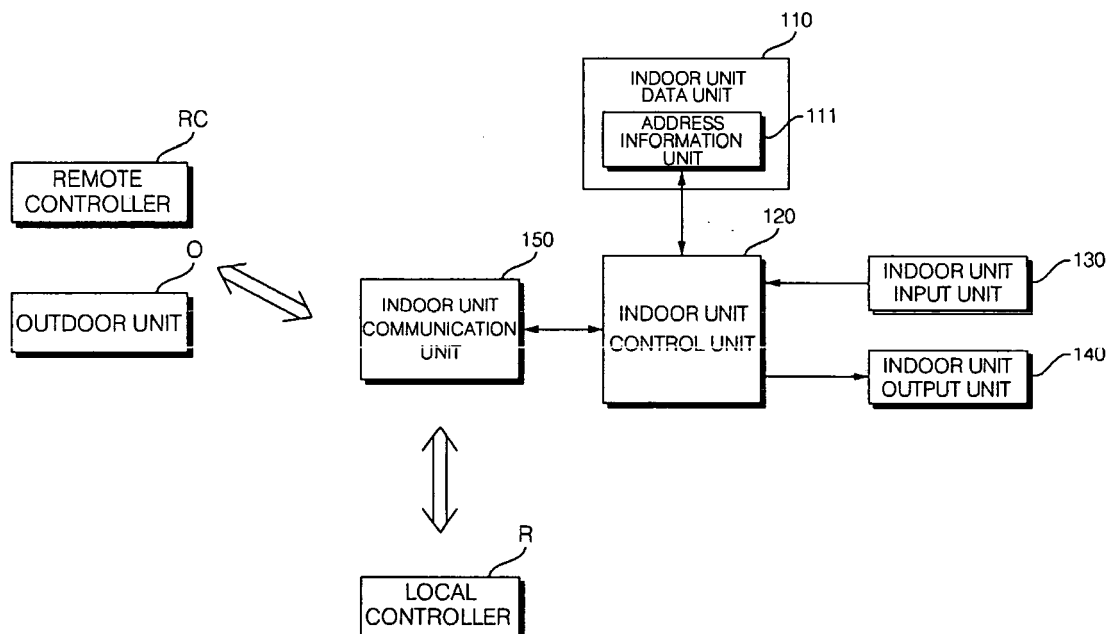


Fig. 4

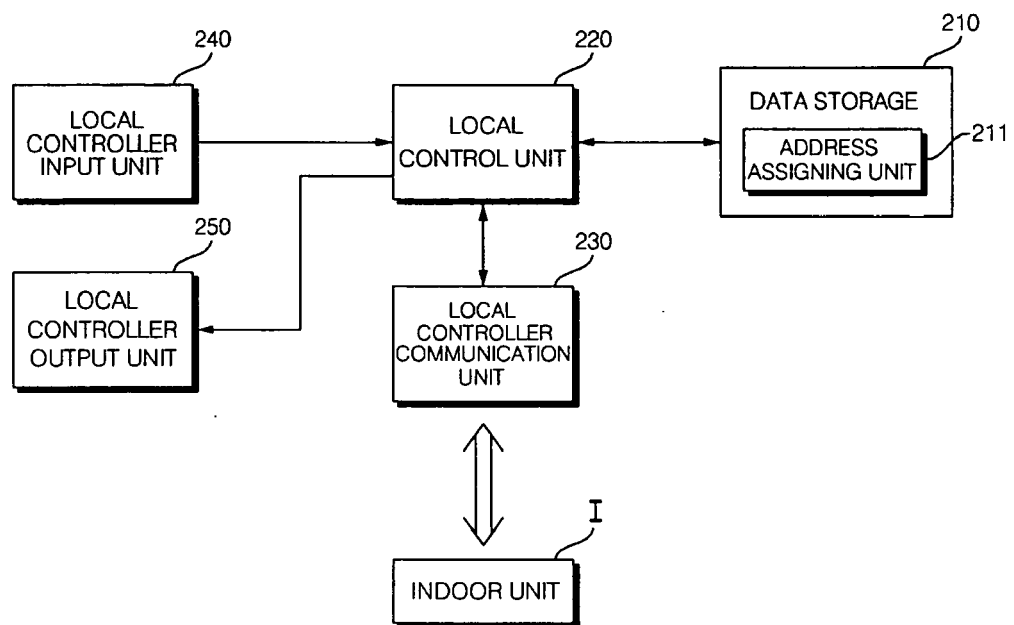


Fig. 5

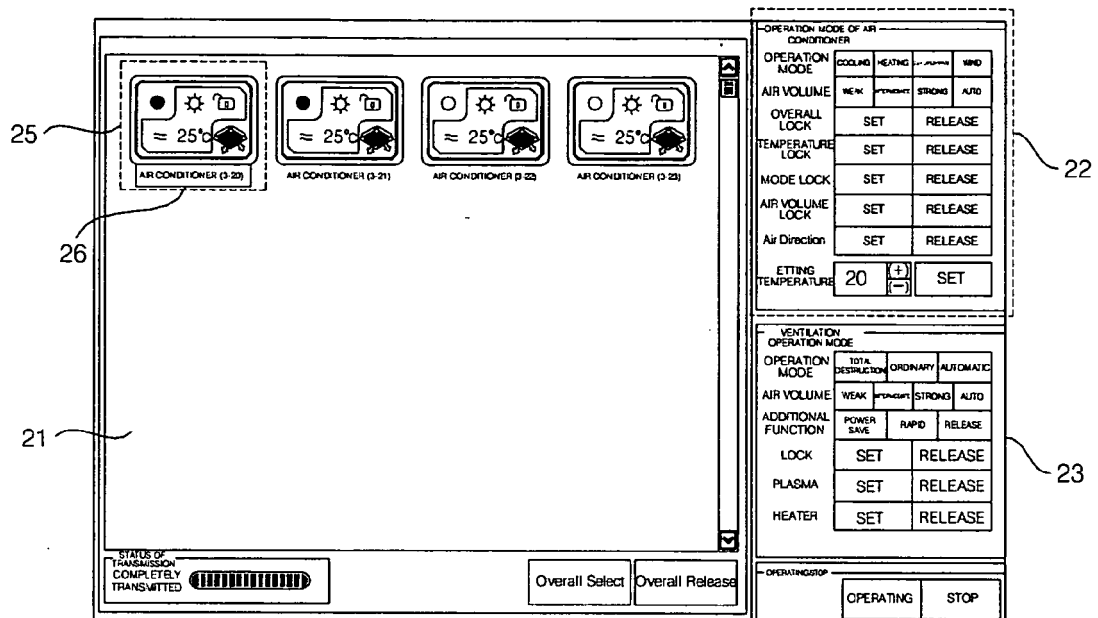


Fig.6

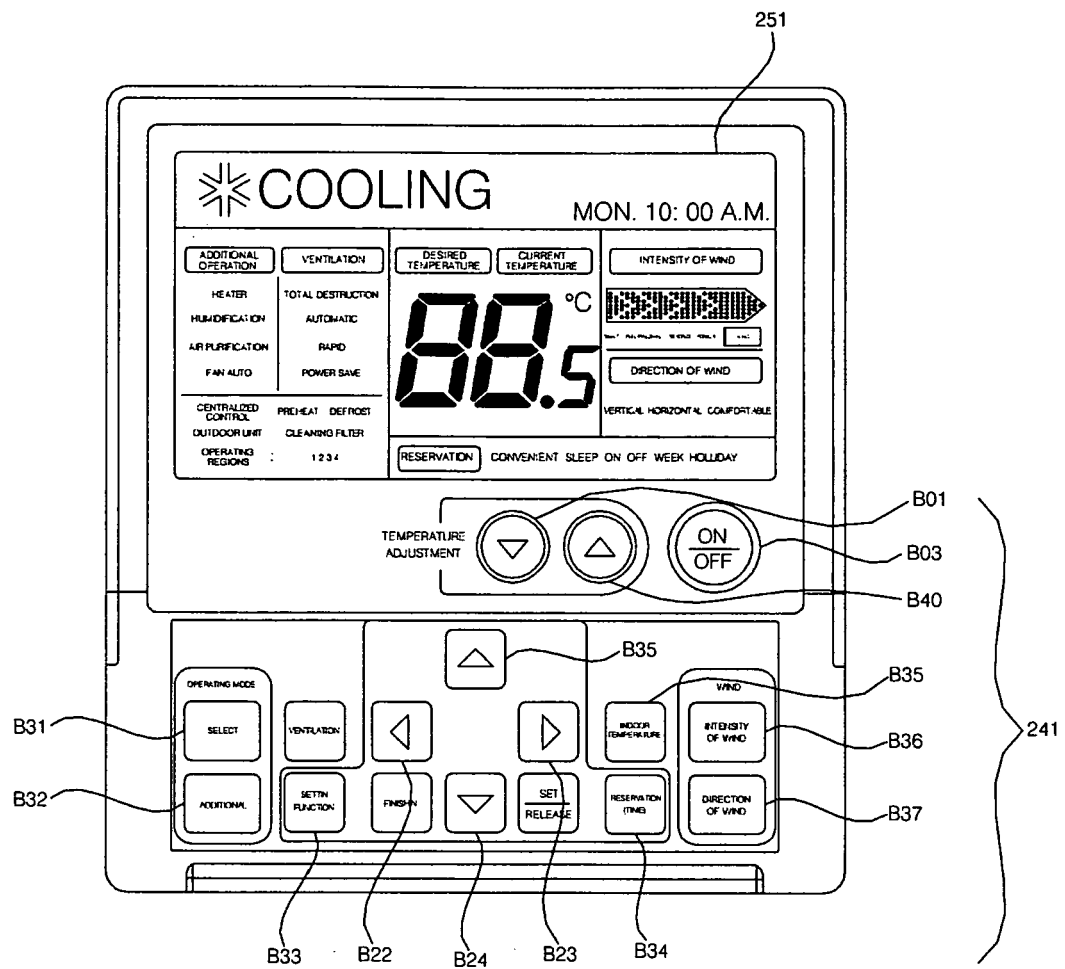


Fig.7

