

# MITSUBISHI ELECTRIC

## CITY MULTI Control System ME Remote Controller

### PAR-F27MEA

### Installation Manual

This manual describes installation of the ME remote controller that connects to CITY MULTI air conditioner indoor unit. Please read this manual thoroughly and install the remote controller accordingly. For information on how to wire and install the air conditioning units, refer to the installation manual for them.

## 1 Safety Precautions

- Read these Safety Precautions and perform installation work accordingly.
- The following two symbols are used to dangers that may be caused by incorrect use and their degree:

- WARNING** This symbol denotes what could lead to serious injury or death if you misuse the PAR-F27MEA.
- CAUTION** This symbol denotes what could lead to a personal injury or damage to your property if you misuse the PAR-F27MEA.

- After reading this installation manual, give it and the indoor unit installation manual to the end user.
- The end user should keep this manual and the indoor unit installation manual in a place where he or she can see it at anytime. When someone moves or repairs the PAR-F27MEA, make sure that this manual is forwarded to the end user.

### WARNING

- Ask your dealer or technical representative to install the unit.** Any deficiency caused by your own installation may result in an electric shock or fire.
- Install in a place which is strong enough to withstand the weight of the PAR-F27MEA.** Any lack of strength may cause the PAR-F27MEA to fall down, resulting in personal injury.
- Firmly connect the wiring using the specified cables. Carefully check that the cables do not exert any force on the terminals.** Improper wiring connectors may produce heat and possibly a fire.
- Never modify or repair the PAR-F27MEA by yourself.** Any deficiency caused by your modification or repair may result in an electric shock or fire. Consult with your dealer about repairs.

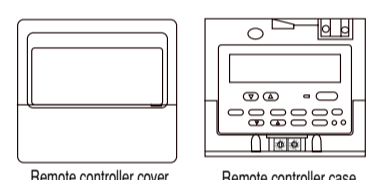
### CAUTION

- Do not install in any place exposed to flammable gas leakage.** Flammable gases accumulated around the body of PAR-F27MEA may cause an explosion.
- Do not use in any special environment.** Using in any place exposed to oil (including machine oil), steam and sulfuric gas may deteriorate the performance significantly or give damage to the component parts.
- Wire so that it does not receive any tension.** Tension may cause wire breakage, heating or fire.
- Completely seal the wire lead-to-port with putty etc.** Any dew, moisture, insects entering the unit may cause an electric shock or a malfunction.
- Do not wash with water.** Doing so may cause an electric shock or a malfunction.
- Do not install in any place at a temperature of more than 40°C or less than 0°C or exposed to direct sunlight.**
- Do not install in any steamy place such as a bathroom or kitchen.** Avoid any place where moisture is condensed into dew. Doing so may cause an electric shock or a malfunction.
- Do not install in any place where acidic or alkaline solution or special spray are often used.** Doing so may cause an electric shock or malfunction.

## 2 Confirming the Supplied Parts

Confirm that the box includes the following parts, in addition to this installation manual:

- 1 Remote controller (cover, body) ..... 1
- 2 Cross recessed pan head screw (M4 x 30) ..... 2
- 3 Wood screw (4.1 x 16, used for directly hooking to the wall) ..... 2
- 4 Instruction book ..... 1
- 5 Caution label (in 10 languages) ..... 1



## 4 How To Install

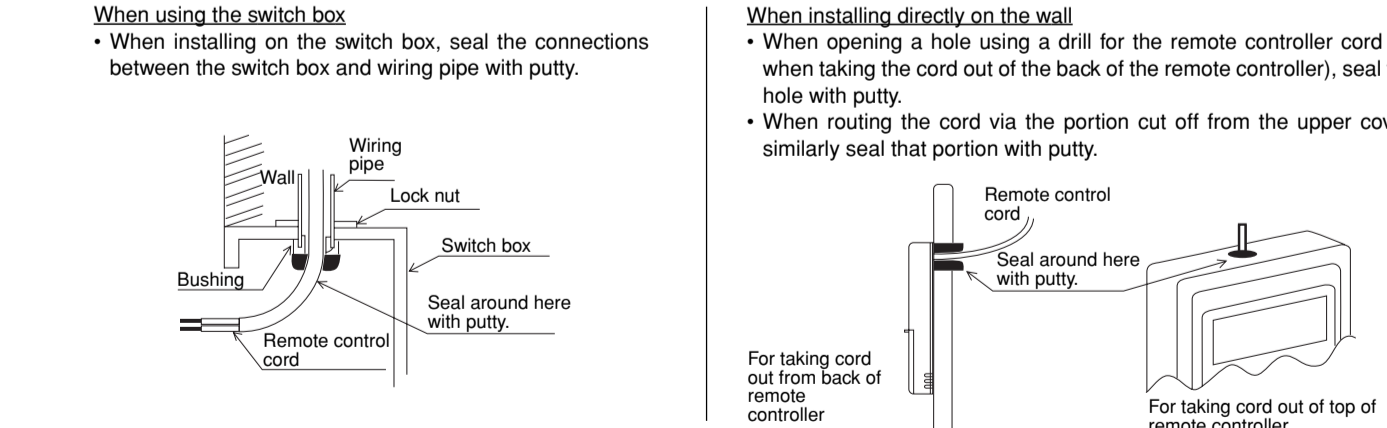
### 1. Choose a place in which to install the remote controller (switch box).

- Be sure to observe the following steps:
- (1) Temperature sensors are provided with both the remote controller and the indoor units. When using the remote controller temperature sensor, the master remote controller detects the room temperature. Install the master remote controller in a place where the average room temperature can be detected and which is not affected by any heat source from direct sunlight or air blown from air conditioning units. (For how to set the master and subordinate remote controller, see step 6 in section (4) How To Install.) For how to set the temperature sensor, refer to the CITY MULTI indoor unit installation manual.)
- (2) When installing on either the switch box or the wall, allow extra space around the remote controller as shown in the figure at the right. (When using the remote controller in combination with a Program timer, refer to the Program timer installation manual.)

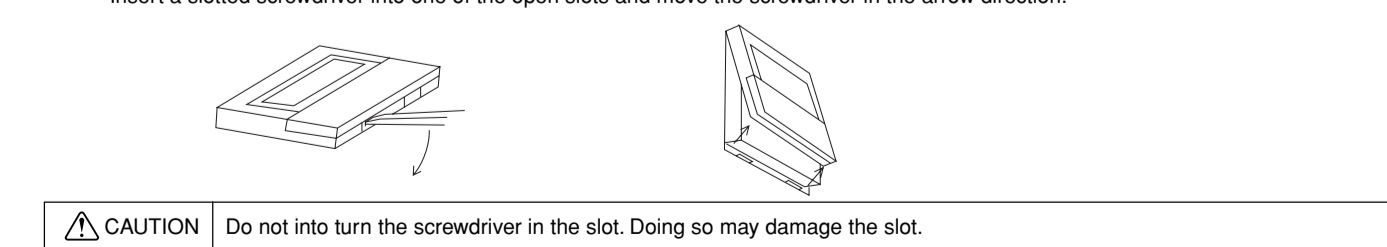
NOTE: Make sure that there is no wiring or wire near the remote controller sensor. If there is, the remote controller cannot detect the exact room temperature.

- (3) Parts which must be supplied on site:
  - Switch box for two units
  - Thin-copper wiring pipe
  - Lock nut and bushing

### 2. Seal the remote controller cord with putty in order to prevent the possible entry of dew, water droplets, cockroaches, other insects, etc.



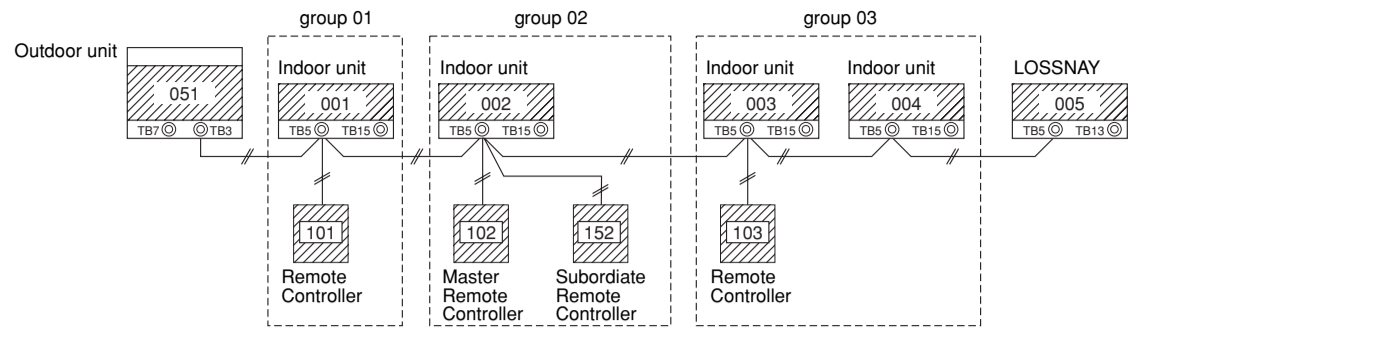
### 3. Remove the remote controller cover.



CAUTION Do not insert the screwdriver in the slot. Doing so may damage the slot.

## 3 How to wire transmission line

### 1. When grouping by same refrigerant system



- Wiring from the remote controller
  - Connect to TB5 (terminal block for indoor/outdoor unit transmission line) on the indoor unit.
  - The terminal block has no polarity. Connect to the symbols "A" and "B" on the terminal block.
- Operating in a group (Groups 01, 02, and 03 above)
  - Match the remote controller address with the master unit address of the indoor units you want to operate as a group. The master unit address indicates the lowest address in the group.
  - Set the remote controller address to master unit address No. + 100.
- The master remote controller and one subordinate remote controller, a total of two, can be connected to each indoor unit or a group made up of indoor units.
  - Connect them as described in (1) above.
  - Be sure to set the master and subordinate remote controller addresses.
  - Set the subordinate remote controller to indoor units master unit address + 150.

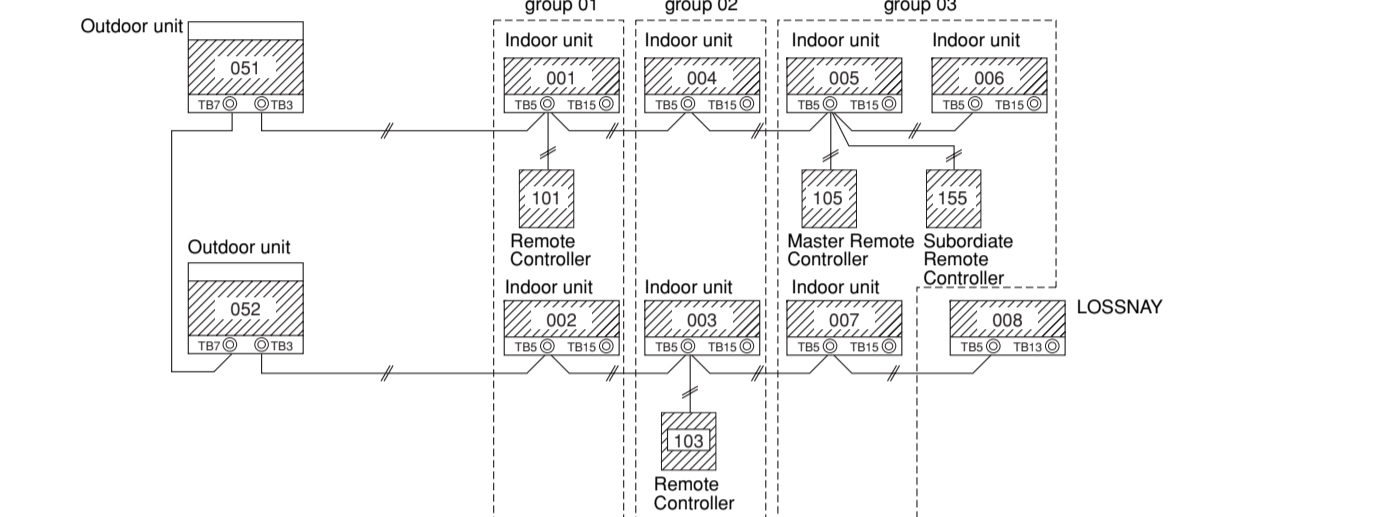
CAUTION Remote controllers cannot be wired together. Only one wire can be connected to the remote controller terminal block. An ME remote controller and MA remote controller cannot be connected in the same group.

- To interlock to a LOSSNAY, make the following settings using the remote controller. (For a description of how to set an interlock, see section (6) Group registration and interlocked registration.)
- Set the LOSSNAY you want to interlock with all the indoor units in the group you want to interlock.

NOTE: Always interlock the LOSSNAY with all the indoor units in the group. If not interlocked, the LOSSNAY will not operate.

- You have just completed all the settings for same refrigerant system.

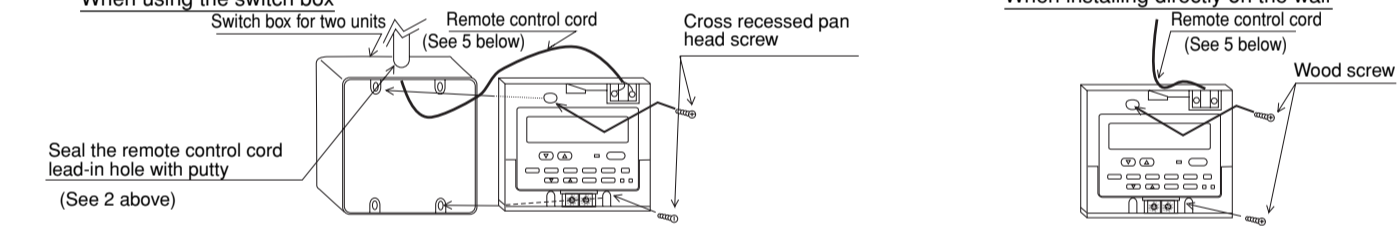
### 2. When grouping by different refrigerant systems



- Wiring from the remote controller (Same as for same refrigerant system)
- Operating in a group
  - Match the remote controller address with the master unit address of the indoor units you want to operate in a group. The master unit address indicates the lowest address in the group.
  - Set the remote controller address to master unit address No. + 100.
- A master remote controller and one subordinate remote controller, a total of two, can be connected to each indoor unit or to a group made up of indoor units. This is the same as for same refrigerant system.
- To interlock the LOSSNAY, make the same settings as for same refrigerant system.
- Set a group of units using each remote controller. (For detailed information, see section (6) Group registration and interlocked registration.) However, when used in combination with a MELANS system controller, group and interlock setting are performed at the system controller and do not have to be performed at the remote controller.
- You have just completed all the settings for different refrigerant systems.

NOTE: When grouping by different refrigerant systems, interchange power supply selection connectors (CN41) and (CN40) on the control PC board of one outdoor unit only.

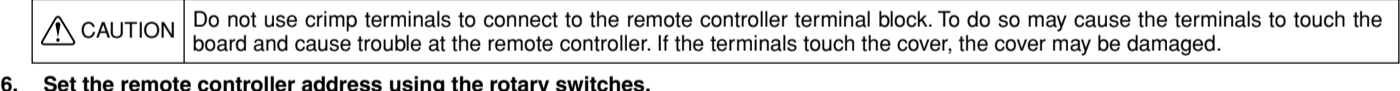
### 4. Install the lower case on the switch box or directly on the wall.



CAUTION Do not tighten the screws too tight. Doing so may deform or crack the lower cover.

NOTE: - Choose a flat plane for installation. - Fasten the switch box at more than two places when installing directly on the wall. When reinstalling on the wall, fasten securely using anchors.

### 5. Connect the remote control cord to the remote controller terminal block.



CAUTION Do not use crimp terminals to connect to the remote controller terminal block. To do so may cause the terminals to touch the board and cause trouble at the remote controller. If the terminals touch the cover, the cover may be damaged.

6. Set the remote controller address using the rotary switches.

Master remote controller	Address setting range	How to set
Subordinate remote controller	101 to 150	Set to lowest unit address No. in same group + 100
Subordinate remote controller	151 to 200	Set to lowest unit address No. in same group + 150

Rotary switch setting	Address No.
01 to 99	101 to 199 (to which 100 is added)
00	200

CAUTION - When setting the address, use a precision screwdriver ([-], 2.0 mm (W)) and apply a load of 19.6 N or less. - If performed any other way, the rotary switch may be destroyed.

NOTE: - Address No. 101 to 200 can be set with the ME remote controller. When set to '01 to '99', the 100 digit is set to [1] and when set to '00', the 100 digit is automatically fixed at [0]. - The rotary switches are factory set to 01.

### 7. Wiring hole for installing directly on the wall (or open wiring)

- Cut off the shaded area from the upper cover using a knife, nippers, etc.
- Take out the remote control cord connected to this portion.

### 8. Install the cover to the remote controller.

First, hook the cover to the two upper claws and then fit it to the remote controller.

CAUTION Press the cover until it snaps shut. If not, it may fall off.

NOTE: A protection sheet is stuck to the operation section. Peel off this protection sheet before use.

### 9. Affix a caution label.

A caution label in English is supplied on the back surface of the control panel door. Affix another caution label in the language of a country where you use the remote control over the English one.

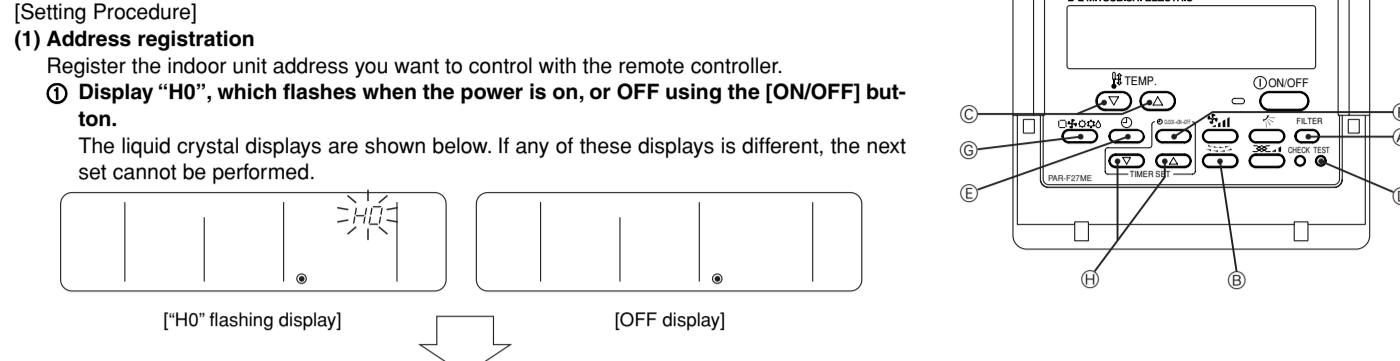
## 5 How To Connect Optional Parts

- The exterior design for PAC-SC32PTA (Program timer) is different from the one for PAR-F27MEA.
- When connecting a Program timer, connect a 5-core cable to the connector on the remote controller. (A 5-core cable is supplied with the Program timer.)
- To route the cable, cut off the thin-wall portion.
- For wiring path convenience, install the Program timer to the left-hand side of the remote controller. When expansion is expected, take into consideration remote controller space at the left-hand side. For the operation method details, refer to the Program timer installation manual.

## 6 Group registration and interlocked registration

This operation should be performed to set a group of indoor units between different refrigerant systems and to manually raise the indoor/outdoor unit addresses.

- (A) Group setting ..... To register the indoor units you want to control with the remote controller, confirm the registered units, or delete registered units.
- (B) Interlock setting ..... To register the LOSSNAY to be interlocked with indoor units, confirm the registered units, or delete registered units.



### (A) Group registration

① Displaying "GROUP REGISTRATION". Press the [Mode selection] button. The display shown below appears. If the button is pressed again, the display returns to (2) "GROUP REGISTRATION".

② Displaying "INTERLOCK REGISTRATION". Press the [Mode selection] button. The display shown below appears. If the button is pressed again, the display returns to (2) "GROUP REGISTRATION".

③ Set the unit address No. Press the [TEMP.] and [Δ] buttons. The unit address No. decreases and increases. Set it to the address No. you want to register.

④ Register the indoor unit address No. you have set. Press the [TEST] button to register the indoor unit address No. being displayed.

- When registration is completed normally, the unit type is displayed as shown below.

- If the specified indoor unit does not exist, an error message will be displayed. Make sure there are indoor units and repeat the operation above.

- When registration completed normally:

⑤ Register to interlock LOSSNAY with indoor unit. Press the [TEST] button. The display shown below appears, and the indoor unit being displayed at "INDOOR UNIT ADDRESS" and the LOSSNAY being displayed at "INTERLOCKED UNIT ADDRESS" are interlocked.

- The above can also be registered similarly by displaying the LOSSNAY address at "INDOOR UNIT ADDRESS" and the indoor unit address at "INTERLOCKED UNIT ADDRESS".

NOTE: Interlock all the units in a group with the LOSSNAY. If not interlocked, the LOSSNAY will not operate.

### (B) Deleting group registration information

- When deletion is completed normally, "0" is displayed at the room temperature display.

- If there is a transmission error, registration is not deleted and the display shown below appears. In this case, repeat the operations above.

- When an error occurs:

\*00\* is displayed at the room temperature display.

### (A) Group registration and (B) Interlock registration of another group using an arbitrary remote controller

(A) Group registration and (B) Interlock registration of another group can be performed using an arbitrary remote controller. For a description of the operation procedure, see "(B) Interlock registration" of section (6) Group registration and interlocked registration. Set the address No. as shown below.

(A) When performing group registration

Interlocked unit address ..... Remote controller address No. Indoor unit address ..... Indoor unit address No. you want to control with the remote controller

(B) When performing interlock registration

Interlocked unit address ... LOSSNAY address No. Indoor unit address ..... Indoor unit address No. which is interlocked with LOSSNAY

## 7 Remote controller functions selection

In the remote controller function selection mode, three functions can be selected and changed. Select and change these functions, as required. For the operating instructions refer to "16 How to select the remote controller functions" of (3) How to Operate in Instruction Book.

(A) Operation mode display selection mode (AUTO mode heating/cooling display selection)

When the AUTO mode was selected with the remote controller, the indoor unit is judged from the room temperature and heating or cooling is performed automatically. In this case, "AUTO" "COOLING" or "AUTO" "HEATING" is displayed at the remote controller. However, only "AUTO" without "COOLING" or "HEATING" can also be displayed.

(B) Room temperature display selection mode (Room temperature display/no display selection)

Normally, the intake air temperature is displayed at the remote controller. However, no display can also be selected.

(C) Set temperature range limit mode

Normally, the set temperature adjustment range of the standard air conditioner can be freely set to a temperature within the respective temperature adjustment range, 19°C to 30°C for cooling and dry, 17°C to 28°C for heating and 19°C to 28°C for AUTO mode. However, further limitation can be applied to the lower limit temperature and the upper limit temperature of these temperature adjustment ranges.

For example, if a higher than normal lower limit temperature is set for cooling and dry (19°C → 25°C) and a lower upper limit temperature is set for heating (28°C → 20°C), substantial energy savings can be realized by preventing excessive cooling or heating.

CAUTION - If using an air conditioner with AUTO mode that simultaneously runs cooling and heating operations, before you can use the set temperature adjustment range limit mode and enjoy the benefits of saving energy, you must first choose to skip automatic mode using the skip automatic mode setting. This energy saving function may not work if AUTO mode was used. - If the controller is connected to an air conditioner without AUTO mode, skip AUTO mode setting mode, set temperature range limit mode (AUTO), operation mode display selection mode will be unavailable.

### (C) Returning to the normal state

When all the group registration and interlock registration operations are completed, return to the normal state as described below.

③ Press and hold down the [FILTER] and [Lower] buttons at the same time for two seconds. The remote controller returns to the state of (2).

To return to the normal state, go to step (2).

To confirm the addresses, go to (2) Registered address confirmation.

### (2) Registered address confirmation

Display the indoor unit address No. registered in the remote controller by performing steps (1) and (2).

(A) Group registration information confirmation

① Displaying "GROUP REGISTRATION". Each time you press the [Timer selection] button, the registered indoor unit address No. and unit type are displayed.

-Registered-

-Not registered-

- When there is one registration, one address No. is displayed no matter how many times the button is pressed.

- When there are multiple registrations (ex. "011", "012", "013", the address Nos.) are displayed in 011 → 012 → 013 order each time the [Timer selection] button is pressed.

(B) Interlocked registration information confirmation

After performing step (1), proceed as follows:

③ Displaying the indoor unit address No. you want to confirm. Press the [Time selection] and [Δ] buttons. The interlocked unit address No. and unit type are displayed. Set it to the indoor unit address No. you want to confirm.

The above can also be confirmed similarly by displaying the LOSSNAY address at the interlocked unit address.

④ Displaying the LOSSNAY address No. interlocked at step (3). Press the [Timer selection] button. The interlocked LOSSNAY address No. and indoor unit address No. are alternately displayed.

Address of unit that is interlocked

(Alternate display)

⑤ Displaying another registered unit address No. After step (3), press the [Timer selection] button again. Another registered unit address No. is displayed. (The display method is the same as step (3).)

Address of another registered unit

(Alternate display)

To delete an address, go to (3) Address deletion.

To return to the normal state, go to step (2).

### (3) Address deletion

Group registration information deletion deletes the indoor units registered in the remote controller.

Interlocked registration information deletion deletes the interlock between units. Both deletion operations perform the address confirmation processing of (2) and are performed in the state in which the unit you want to delete was displayed.

⑥ Deleting registered indoor unit or interlock between units. Press the [Time selection] button two times in succession. The displayed indoor unit address or the interlock between units is deleted. When the information is deleted, the display shown below appears.

To delete an address, go to (3) Address deletion.

## 8 Test Run

- Before making a test run, refer to the "Test Run" section of the indoor unit installation manual.
- Press the [TEST] button twice successively within three seconds. Test run starts.
- Stop the test run by pressing the [ON/OFF] button.
- If trouble occurred during the test run, refer to the "Test Run" section of the indoor unit installation manual.



### (A) Group registration and (B) Interlock registration of another group using an arbitrary remote controller

(A) Group registration and (B) Interlock registration of another group can be performed using an arbitrary remote controller. For a description of the operation procedure, see "(B) Interlock registration" of section (6) Group registration and interlocked registration. Set the address No. as shown below.

(A) When performing group registration

Interlocked unit address ..... Remote controller address No. Indoor unit address ..... Indoor unit address No. you want to control with the remote controller

(B) When performing interlock registration

Interlocked unit address ... LOSSNAY address No. Indoor unit address ..... Indoor unit address No. which is interlocked with LOSSNAY