

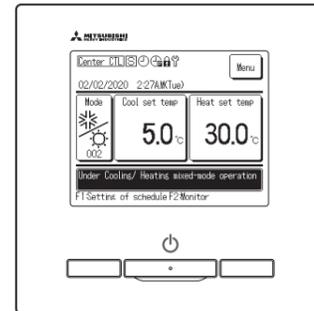
Installation manual of the remote control (R/C) for heat pump chiller

PJZ012D156

RC-MCU-E

Original Instructions

This installation manual describes the installation methods and precautions related to the remote control. Use this manual together with the user's manuals for the heat pump unit and other optional equipment. Please read this manual carefully before starting the installation work to install the unit properly.



1. Safety precautions

- Please read this manual carefully before the installation work to install the unit properly. Every one of the following instructions is important to be observed strictly.

⚠ WARNING Failure to follow these instructions may result in serious consequences such as death, severe injury, etc.

⚠ CAUTION Failure to follow these instructions may cause personal injury or property damage. It could have serious consequences depending on the circumstances.

- The pictograms used in the text have following meanings.

Never do. **Always follow the instructions given.**

- Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to a installer when moving or repairing the unit. When the ownership of this unit is transferred, this "Installation Manual" should be given to a new owner.

⚠ WARNING

- The appliance shall be installed in accordance with national wiring regulations.
- Ask a professional contractor to carry out the installation work according to the installation manual. Improper installation work may result in electric shocks, fire or break-down.
- Shut off the main power before starting electrical work. Otherwise, it could result in electric shocks, break-down or malfunction.
- Do not install the unit in inappropriate environment or where inflammable gas could generate, flow in, accumulate or leak. This unit should not be used in places where the air contains dense oil mist, steam, organic solvent vapor, corrosive gasses (such as ammonium, sulfuric compounds, and acid), or places where acidic or alkaline solutions or special sprays, etc. are used. Doing so may cause electric shocks, break-down, smoke or fire due to corrosion or deterioration of the units performance.
- Do not install the unit where water vapor is generated excessively or condensation occurs. It could cause electric shocks, fire or break-down.
- Use the specified cables for wiring, and connect them securely with care to protect electronic parts from external force. Improper connections or fixing could cause heat generation, fire, etc.
- Seal the inlet hole for remote control cable with putty. If moisture, water, insect, etc. enters through the hole, it could cause electric shocks, fire or break-down.
- When installing the unit at a hospital, telecommunication facility, etc., take measures to suppress noises. It could cause malfunction or break-down due to hazardous effects on the inverter, in-house power generator, high frequency medical equipment, etc. The influences transmitted from the remote control to medical or communication equipment could disrupt medical activities, video broadcasting or cause noise interference.

⚠ CAUTION

- Do not install the remote control at following places. It could cause break-down or deformation of remote control. (1) Where it is exposed to direct sunlight / (2) Near the equipment to generate heat / (3) Where the surface is not flat
- Do not leave the remote control with its upper case removed. When the upper case is removed, put it in a packing box or packing bag to protect PCBs or other parts inside of it from dust, moisture, etc.
- The appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.
- Children shall be supervised not to play with appliance.

2. Accessories & parts prepared at site

Accessories	Remote control main unit, wood screw ($\phi 3.5 \times 16$) 2pcs, Installation Manual
-------------	---

Parts prepared on site

Item name	Q'ty	Remarks
Switch box For 1 piece or 2 pieces (JISC8340)	1pc	There are not necessary when installing R/C directly on a wall
Thin steel conduit tube (JIS C8305)	As required	
Lock nut, bushing (JIS C8330)	As required	
Cable cover	As required	Necessary to run R/C cable on the wall
Putty	Suitably	For sealing gaps
Molly anchor	As required	
R/C cable ($0.3\text{mm}^2 \times 2\text{-core}$) shielding wire (MVVS)	As required	Be sure to ground both ends. See right table when longer than 100m

The max size for the wires used in the R/C case is 0.5mm^2 . Therefore when the cable length is longer than 100m, connect the wires from R/C to larger size ones near the outside of R/C. When wires are connected, take measure to prevent water, etc from entering inside of connected part.

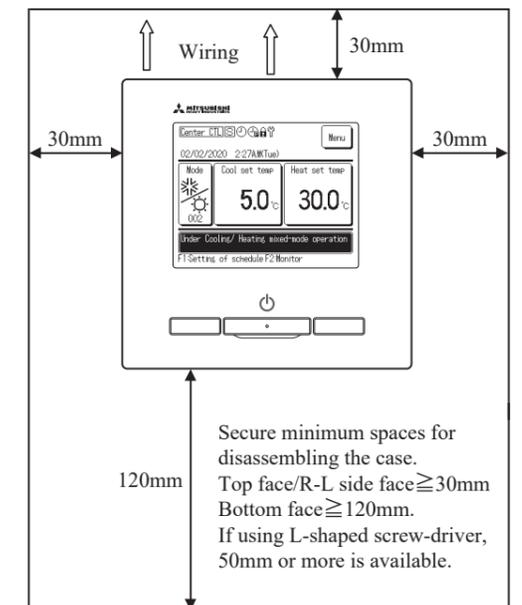
< 200m	$0.5\text{mm}^2 \times 2\text{-core}$ shielding wire (MVVS)
< 300m	$0.75\text{mm}^2 \times 2\text{-core}$ shielding wire (MVVS)
< 400m	$1.25\text{mm}^2 \times 2\text{-core}$ shielding wire (MVVS)
< 600m	$2.0\text{mm}^2 \times 2\text{-core}$ shielding wire (MVVS)

3. Installation place

- Installing method [With using a switch box]
[Installed directly on a wall]
- Wiring direction [Backward]
[Upper center] or [Upper left]

Cautions for selecting installation place

- (1) Installation surface must be flat and sufficiently strong.
R/C case must not be deformed.

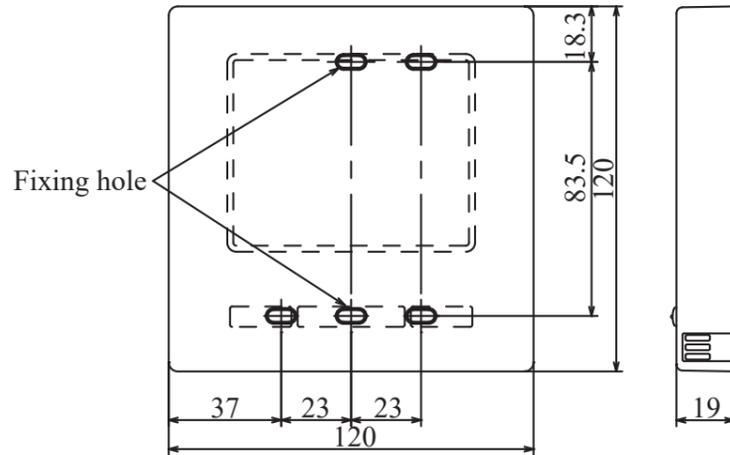


Request

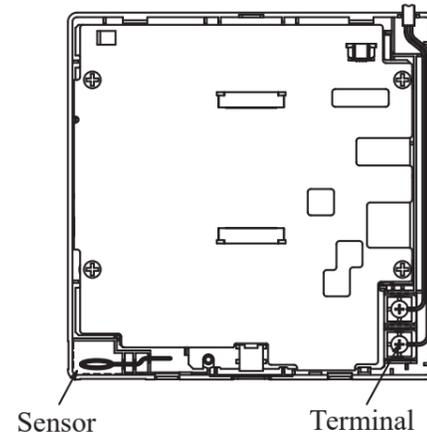
- Do not install the R/C at a place where it is exposed to direct sunlight or surrounding air in which temperature exceeds 40°C or drops below 0°C . It could cause discoloration, deformation, malfunction or break-down.

4. Installation and wiring work

Dimensions (View from front side)



PCB side (View from rear side)



- To remove the upper case from the bottom case of R/C
 - Insert the tip of a flat head screwdriver or the like in the recess at the lower part of R/C and twist it lightly to remove

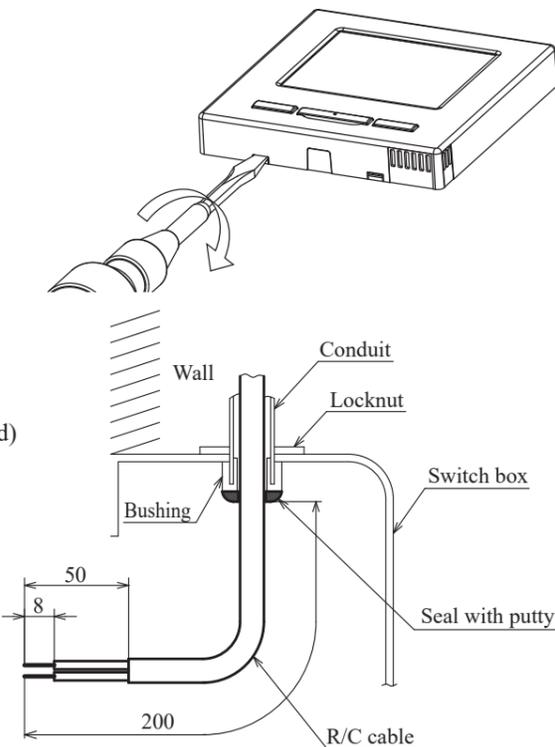
Take care to protect the removed upper case from moisture or dust

- Connect the wires from X and Y terminals of R/C to X and Y terminals of heat pump unit. There is no polarity of R/C wiring (X and Y).

In case of embedding wiring (When the wiring is retrieved backward)

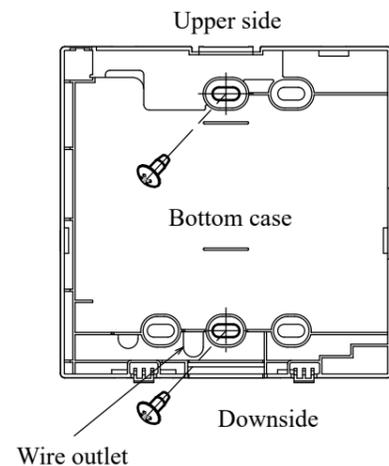
- Embed the switch box and the R/C wires beforehand. Seal the inlet hole for the R/C wiring with putty.

If dust or insect enters, it could cause electric shocks, fire or break-down.

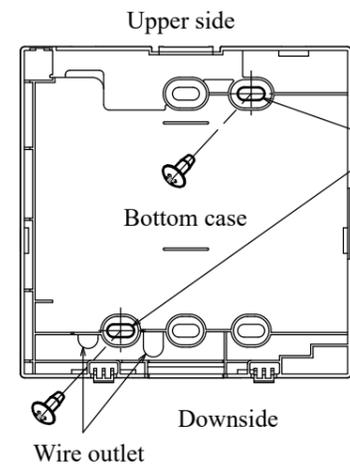


- When wires are passed through the bottom case, fix the bottom case on the switch box at 2 places.

Switch box for 1



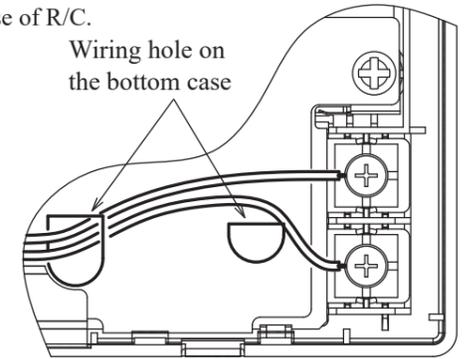
Switch box for 2



Cut out the thin wall part at the screw mounting section with a knife or the like before tightening the screw.

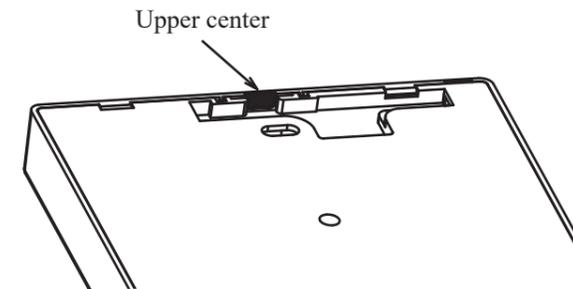
4. Installation and wiring work (continued)

- When fixing the bottom case diagonally at 2 places, cut out the thin wall part of the case.
- Fix wires such that they will run around the terminal screws on the upper case of R/C.
- Install the upper case with care not to pinch wires of R/C.



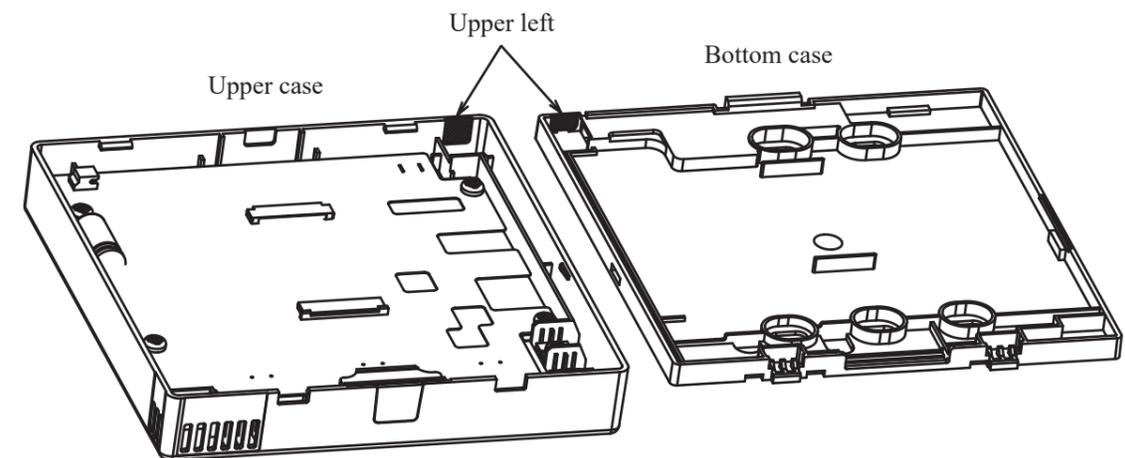
In case of exposing wiring (When the wiring is taken out from the "upper center" or "upper left" of R/C)

- Cut out the thin wall parts of the cases for the hole size to fit to the wire size.



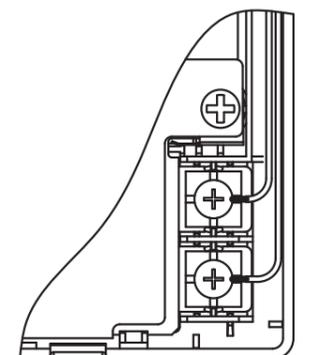
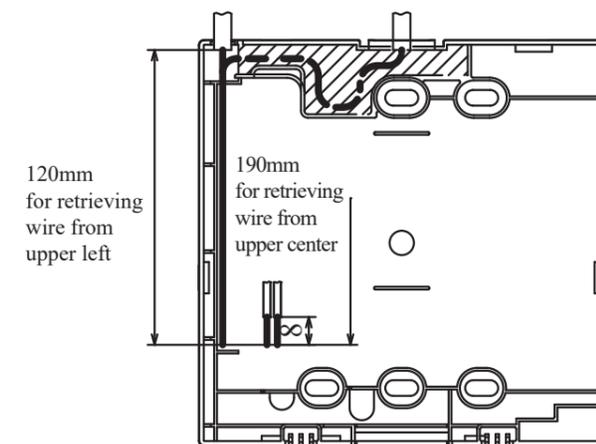
When taking the wiring out from the upper center, open a hole before separating the upper and bottom cases. This will reduce risk of damaging the PCB and facilitate subsequent work.

When taking the wiring out from the upper left, take care not to damage the PCB and not to leave any chips inside.



If the hole is cut too large, moisture, dust or insects may enter. Seal gaps with putty or the like.

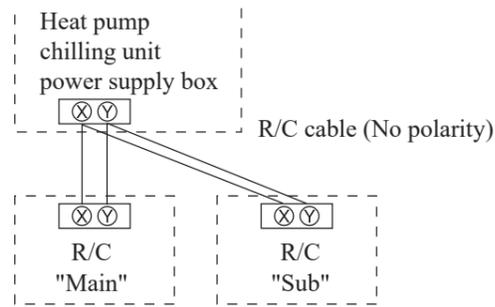
- Fix the bottom case on a flat surface with wood screws
- In case of the upper center, pass the wiring behind the bottom case (hatched section).
- Fix wires such that the wires will run around the terminal screw of the upper case of R/C.
- Install the upper case with care not to pinch wires of R/C.



5. Main/Sub setting when using multiple R/Cs

Up to two units of R/C can be used at the maximum for one heat pump chilling unit or one group.
One is main R/C and the other is sub R/C.

Operation range is different depending on the main or sub R/C.



○: Operable

R/C function	Main	Sub
Run/Stop	○	○
Operation mode	○	—
Set temp	○	—
Setting of schedule	○	—
Error history	○	○
R/C function settings	○	○

Set the "Main" and "Sub" with same procedure as shown in Section 6.

Note: Initializing of password

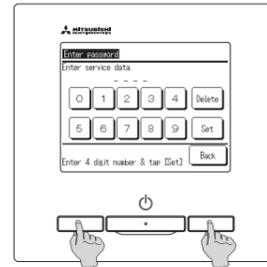
Administrator password (for daily setting items) and service password (for installation, test run and maintenance) are used

- Default setting of Administrator password is "0000". This setting can be changed (Refer to the Instruction Manual).

If you forget the administrator password, hold down the [F1] and [F2] buttons simultaneously for five seconds in the administrator password input screen to initialise the password.

- Service password is "9999", which cannot be changed.

When inputting the administrator password, the service password "9999" is also acceptable.



Note: Test run

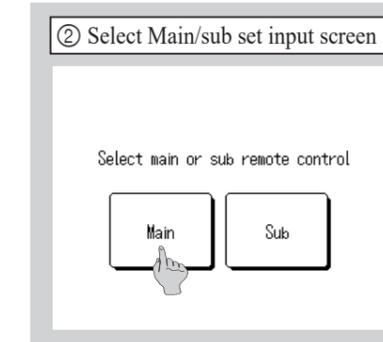
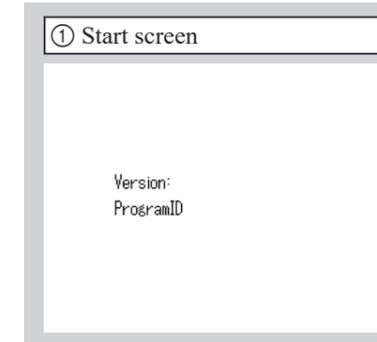
A test run is required to run the unit for the first time.

For the test run method, check the heat pump chilling unit installation manual or user's manual.

6. Initial settings at power-on

Make the Main/Sub R/C function settings, clock settings, and schedule settings according to the display when the power is turned on.

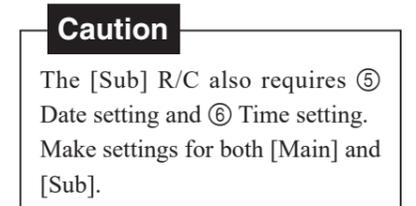
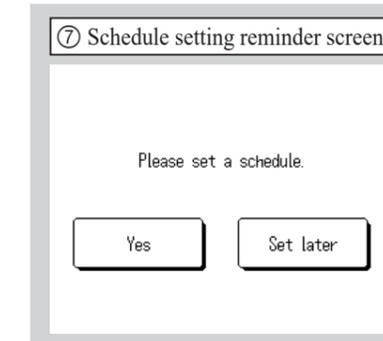
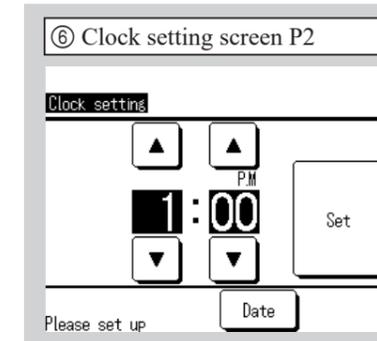
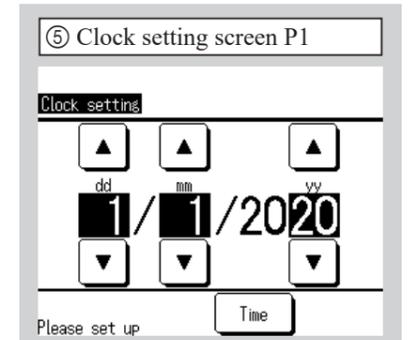
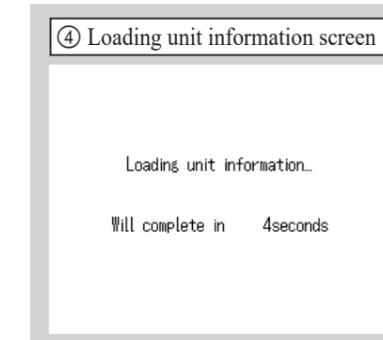
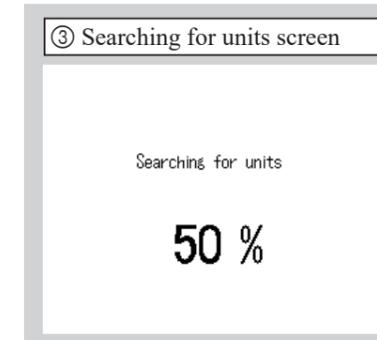
- (1) If Main and Sub are not set, proceed from step ① to step ② to display the Main/Sub input screen.
Tap either [Main] or [Sub] that is framed. Start the initial setting.
If you tap by mistake, you can change settings after completing the initial setting.
- (2) If Main and Sub of R/C are set, display the ⑨ TOP screen.
- (3) If you start settings using the first R/C as "Main", the second R/C is automatically set to "Sub".



[Main] ⇒ ③ ⇒ ④ ⇒ ⑤ ⇒ ⑥ ⇒ ⑦ ⇒ ⑧
[Sub] ⇒ ⑤ ⇒ ⑥ ⇒ ⑨

Caution

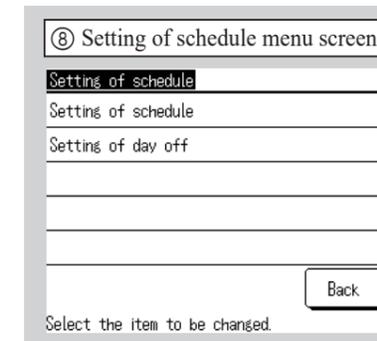
If you have only one R/C, tap [Main].
In the initial state, the system continues to wait until either one is selected.
If you have multiple R/Cs, start the setting with either one's settings.



Caution

The [Sub] R/C also requires ⑤ Date setting and ⑥ Time setting.
Make settings for both [Main] and [Sub].

When the power is turned on, the operation mode is set to [Stop].



Make settings according to "8-1. Setting of schedule".

In step ⑦, tap [Yes] to proceed to step ⑧.

In step ⑦, tap [Set later] to display the TOP screen in step ⑨.

Press the Run button on the main body to display the "Please set a schedule." message. Make settings according to "8-1. Setting of schedule".

- If you do not set a schedule, select Invalid in step ⑥ in "13. Initial settings".

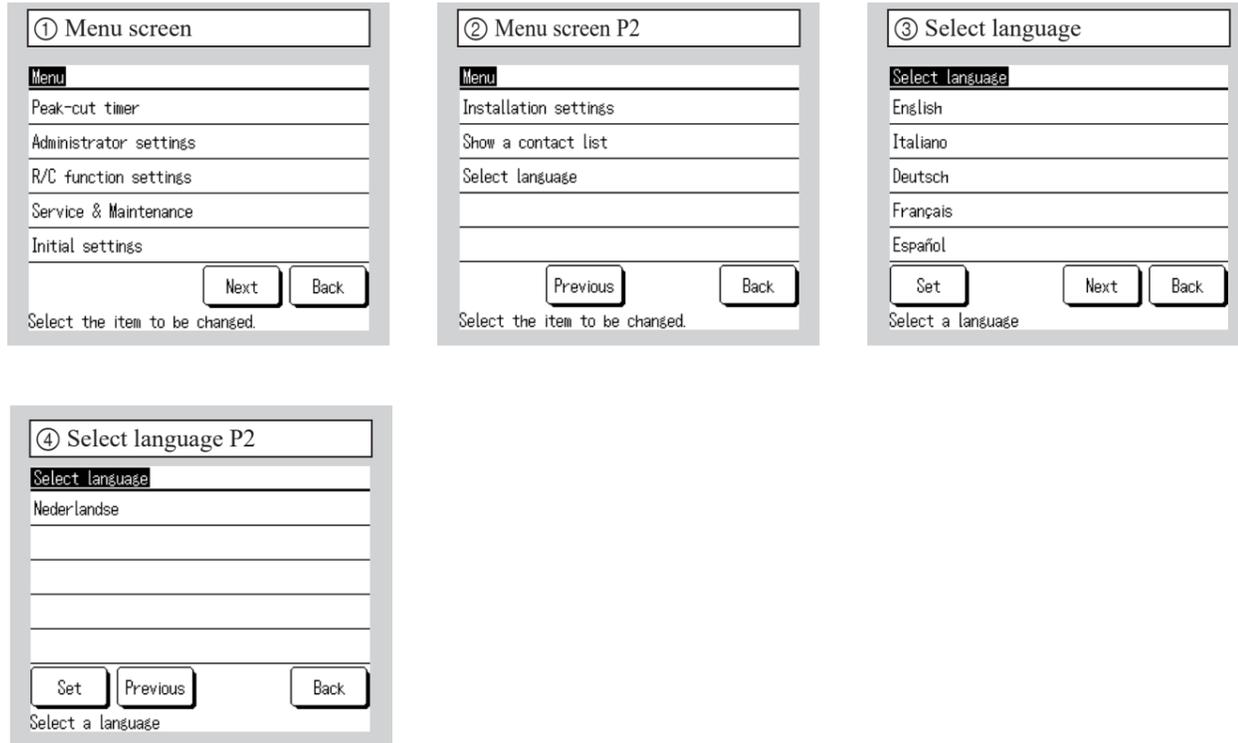
- When using the C/H mix mode system, set the C/H mix mode to Valid in the Installation settings menu, and then make settings according to "8-2. Setting of schedule for the C/H mix mode system".

7. Language setting

You can set the following display languages in addition to the default English.

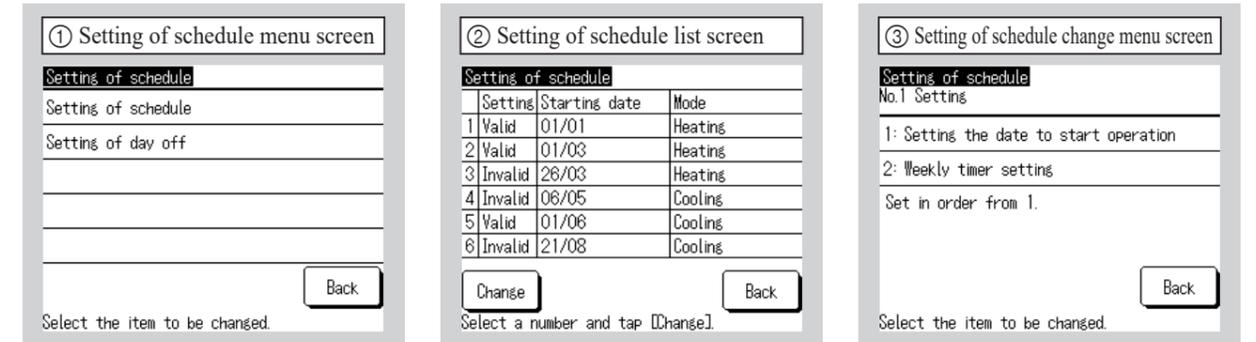
Options: English, Italian, German, French, Spanish, Dutch

TOP screen ⇒ Menu ⇒ Next ⇒ Select language



8-1. Setting of schedule

After configuring Clock setting in Initial settings or if you tap the F1 (Schedule) button of the main body and tap **Change schedule** to select, you can proceed to the Menu screen and make the Setting of schedule. Up to six schedules can be set for "Starting date" and "Operation mode" within a year. If the Setting of schedule is omitted, you will not be able to perform unit operations. If you do not use the schedule function, change Setting of schedule in "13. Initial settings" to Invalid.



Select **Setting of schedule**.

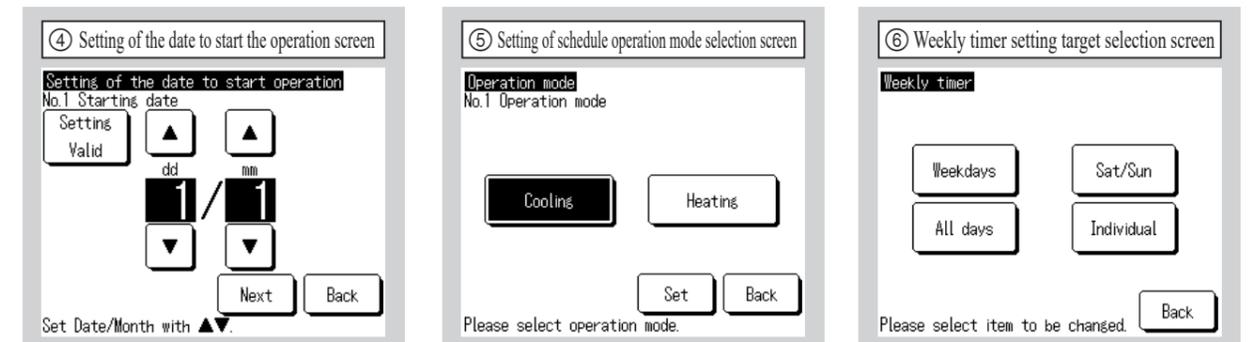
If you select **Setting of day off**, proceed to "9. Setting of day off" ①.

Tap and select the number (row) to set, and select **Change**.

By default, all the Settings are Invalid, and "Starting date" and "Mode" are blank.

Tap and select "1: Setting the date to start operation".

If item 1 has been set, select "2: Weekly timer setting" and proceed to step ⑥.



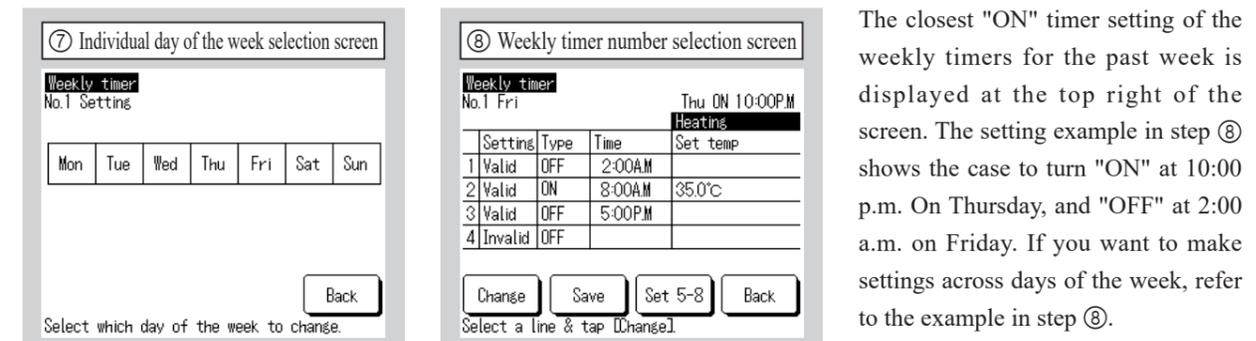
Use the ▲/▼ buttons to set the Starting date, tap **Setting** to change to Valid, and select **Next**.

If you do not use the currently set schedule number, tap **Setting** to set to Invalid.

Select the Operation mode, and select **Set**.

Return to the list menu in step ②.

Set the weekly schedule from the Starting date you specified. Select the type of the Weekly timer. If you select Individual, proceed to step ⑦, otherwise, proceed to step ⑧.



Select a day of the week to set the timer.

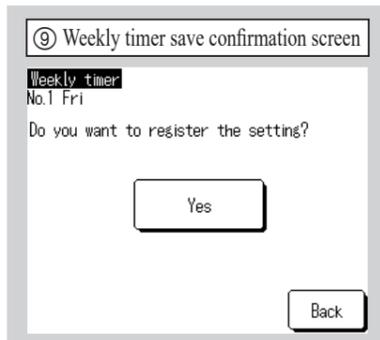
Tap and select the timer number (row), and select **Change**. Select Valid/Invalid in **Setting**, ON/OFF in **Type**, use the ▲/▼ buttons to set the time of the timer, and select **Set**.

If you want to change the set temperature, select **Next** in the Time setting screen, use the ▲/▼ buttons to set the set temperature, and select **Set**.

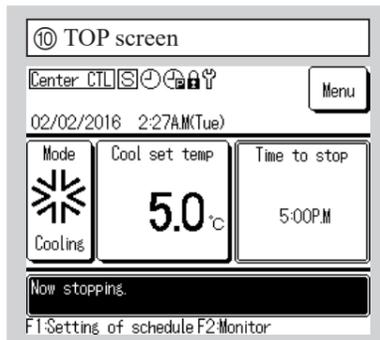
When the desired timer setting is complete, select **Save**.

If you select **Back**, the changed contents will not be reflected.

8-1. Setting of schedule (continued)



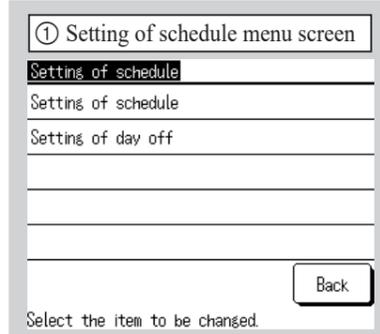
To save, select **Yes**. Return to step ⑥. Repeat this procedure with the settings configured in steps ③ to ⑨ for each Starting date of Setting of schedule in step ②.



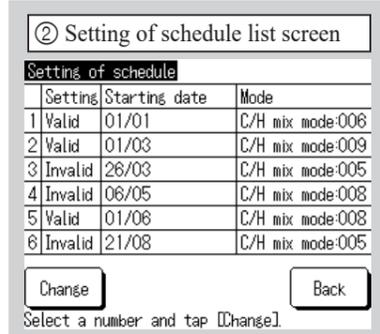
If you return to the TOP screen, the Setting of schedule is displayed. From two days after the relevant action is carried out, the unit will run according to the Setting of schedule. If you want to change the Today's or Tomorrow's schedule to Valid immediately after setting a schedule, make settings according to "10. Today's or Tomorrow's schedule".

8-2. Setting of schedule for C/H mix mode system

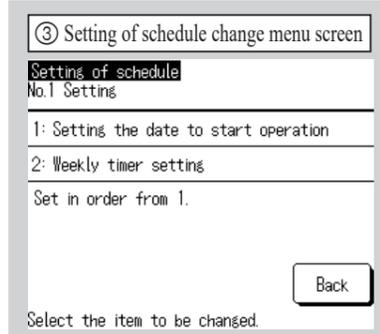
When setting the C/H mix mode system, change the C/H mix mode to Valid in the Installation settings menu. After changing to Valid, the TOP screen of the R/C is switched. If you press the F1 (Schedule) button of the main body and tap and select **Change schedule**, you can proceed to the Menu screen and make the Setting of schedule. Up to six schedules can be set for "Starting date" and "Change unit to switch Cooling/Heating" within a year. If the schedule is omitted, you will not be able to perform unit operations. If you do not use the schedule function, change Setting of schedule in "13. Initial settings" to Invalid.



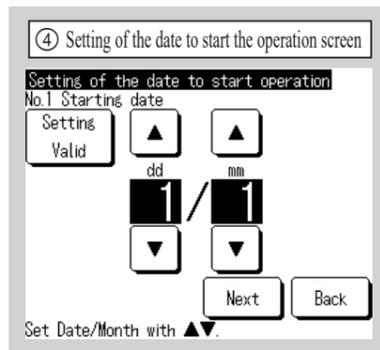
Select **Schedule** setting. If you select **Setting of day off**, proceed to "9. Setting of day off" ①.



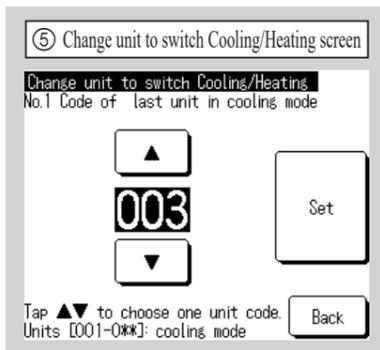
Tap and select the number (row) to select, and select **Change**. By default, all the Settings are Invalid, and "Starting date" and "Mode" are blank.



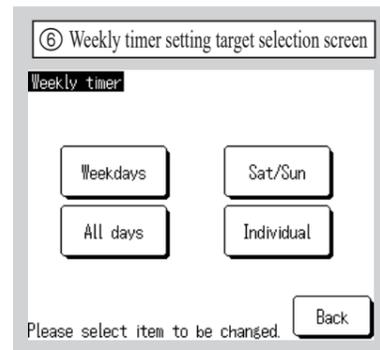
Tap and select "1: Setting the date to start operation". If item 1 has been set, select "2: Weekly timer setting" and proceed to step ⑥.



Use the ▲/▼ buttons to set the operation starting date, tap **Setting** to change to Valid, and select **Next**. If you do not use the currently set schedule number, tap **Setting** to set to Invalid.

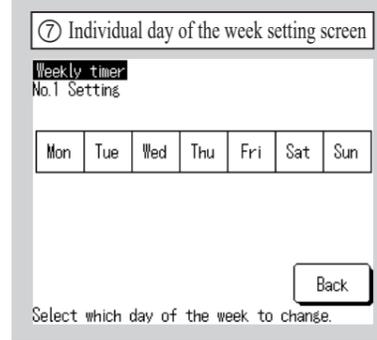


Use the ▲/▼ buttons to set the last address for cooling, and select **Set**. Select **Back** to return to the list menu in step ②.

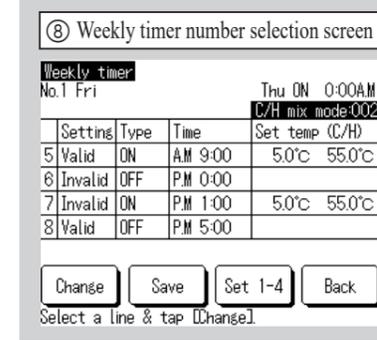


Set the weekly timer from the operation starting date you specified. Select the type of the Weekly timer. If you select Individual, proceed to step ⑦, otherwise, proceed to step ⑧.

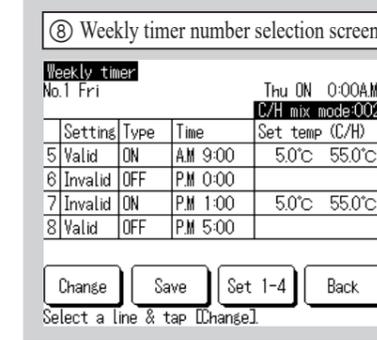
8-2. Setting of schedule for C/H mix mode system (continued)



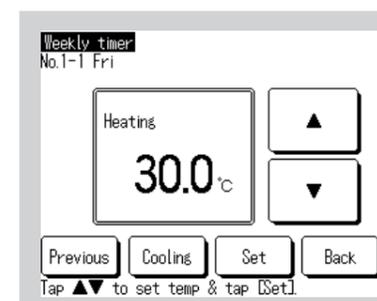
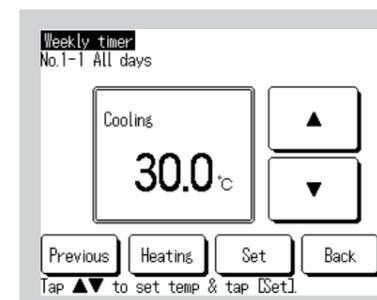
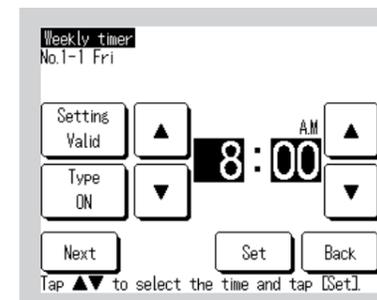
Select a day of the week to set the timer.



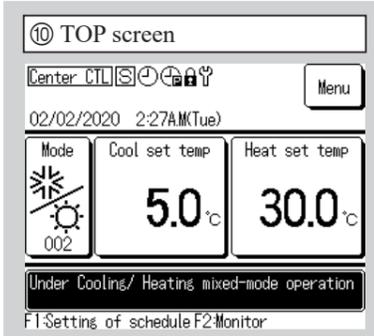
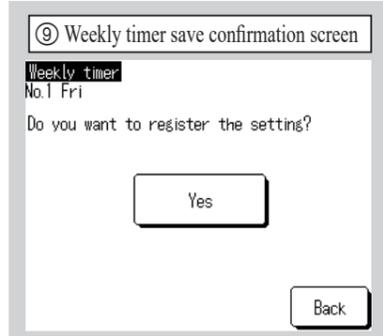
Tap and select the timer number (row), and select **Change**. Select Valid/Invalid in **Setting**, ON/OFF in **Type**, use the ▲/▼ buttons to set the time of the timer, and select **Set**. If you want to change the set temperature for cooling and heating, select **Next** in the Time setting screen, use the ▲/▼ buttons to set the set temperature for cooling and heating, and select **Set**.



The closest "ON" timer setting of the weekly timers for the past week is displayed at the top right of the screen. The example above shows the case to turn "ON" at 10:00 p.m. on Thursday and set the cooling/heating setting address to "2". If you want to make settings across days of the week, refer to the example above.



8-2. Setting of schedule for C/H mix mode system (continued)

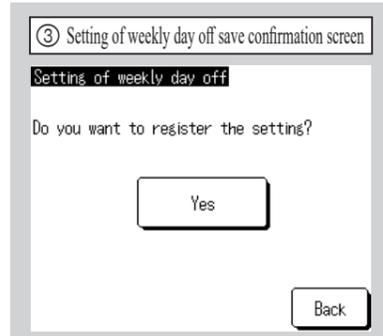
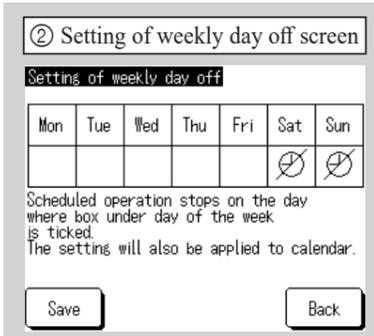
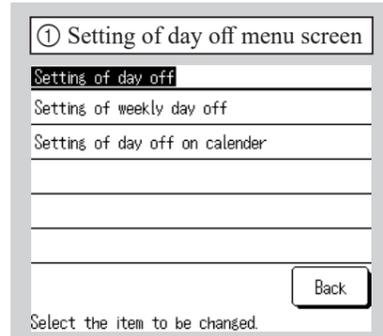


To register, select **Yes**.
Return to step ⑥. Repeat the settings in steps ③ to ⑨ each time the schedule setting in step ② starts.

If you return to the TOP screen, the Setting of schedule is displayed. From two days after the relevant action is carried out, the unit will run according to the Setting of schedule. If you want to change the Today's or Tomorrow's schedule to Valid immediately after setting a schedule, make settings according to "10. Today's or Tomorrow's schedule".

9. Setting of day off

- The Setting of day off for Individual can be made in the calendar display. All days are set as non day-off at the time of shipment.
- The Setting of day off for each day of the week can be set in Setting of weekly day off. The calendar display is also automatically reflected.
- In the day set to the day off, the Weekly timer is set to "OFF" at 00:00 a.m., and the settings of schedule after this are changed to Invalid, which causes the unit to be stopped between 00:00 a.m. and 12:00 p.m. (24:00). Be careful when setting beyond the date.



Tap and select the type for the Setting of day off.
If you select Setting of weekly day off, proceed to step ②. If you select Setting of day off in the calendar, proceed to step ④.

Tap the bottom of the day of the week you want to specify Setting of day off, display , and select **Save**.
The setting will also be applied to calendar in step ⑤.

To save, select **Yes**.
Return to the list menu in step ①.



The calendar for the current month is displayed. Tap the date you want to change to the day off. To set to the non day-off, tap the date changed to the day off. To set **Next mo.**, select **Next mo.** You cannot configure the Today's or Tomorrow's setting of day off.

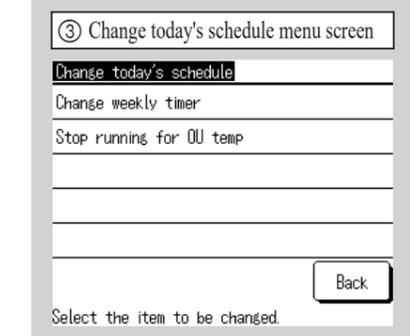
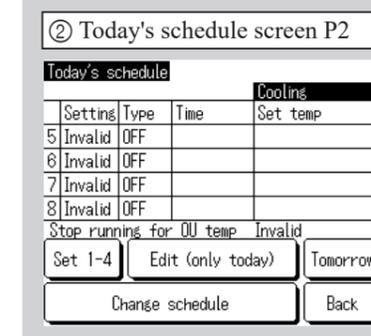
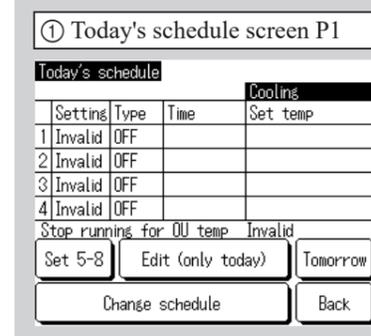
You can set the calendar for 12 months (one year) from the current month.

Make settings according to "10. Today's or Tomorrow's schedule".

10. Today's or Tomorrow's schedule

When "8-1. Setting of schedule" is complete and the mark is displayed in the TOP screen, the unit will run automatically from two days after the relevant action is carried out.

If you want to set the Today's or Tomorrow's schedule immediately after configuring "8-1. Setting of schedule", or if you want to change the Today's or Tomorrow's schedule that is already specified, follow the procedure below.



If you press the F1: Setting of schedule button in the TOP screen, the screen in step ① is displayed, enabling you to confirm the Today's schedule (timers 1 to 4).

To confirm timer 5 and subsequent timers, select **Set 5-8**. Proceed to step ②.

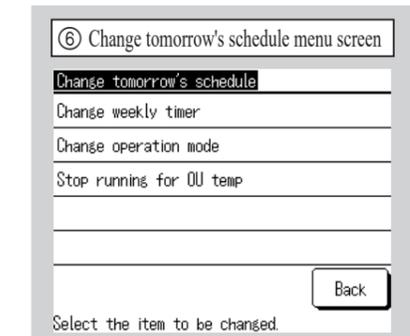
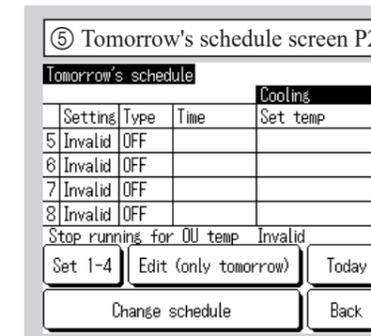
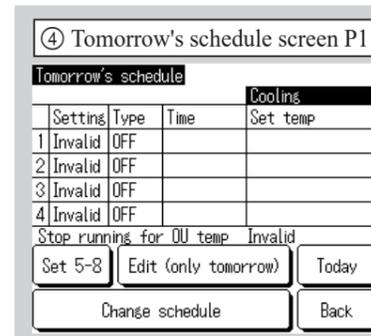
To confirm the Tomorrow's schedule, select **Tomorrow**. Proceed to step ④.

To change the Today's schedule, select **Edit (only today)**.

Tap and select the item you want to change.

If you select Change weekly timer, proceed to "8-1. Setting of schedule ⑧".

If you select Stop running for OU temp, tap Stop running for OU temp, and select **Valid** / **Invalid**.



To confirm timer 5 and subsequent timers, select **Set 5-8**. Proceed to step ⑤.

To change the Tomorrow's schedule, select **Edit (only tomorrow)**.

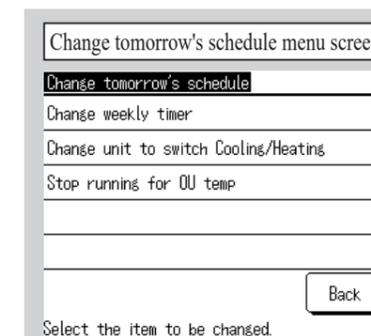
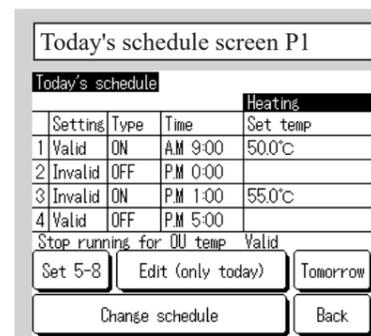
Tap and select the item you want to change.

If you select Change weekly timer, proceed to "8-1. Setting of schedule ⑧".

To change the Operation mode, select Change operation mode, and select **Cooling** or **Heating**.

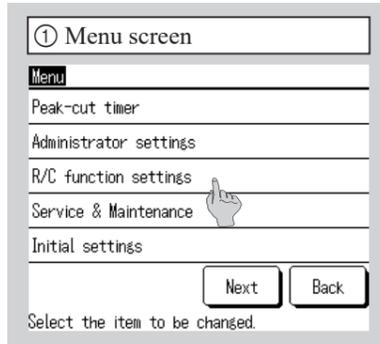
If you select Stop running for OU temp, tap Stop running for OU temp, and select **Valid** / **Invalid**.

Setting for C/H mix mode system

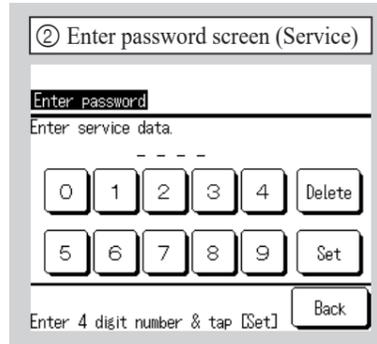


11. R/C function settings

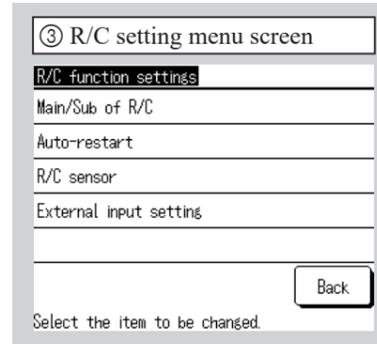
TOP screen ⇒ Menu ⇒ R/C settings



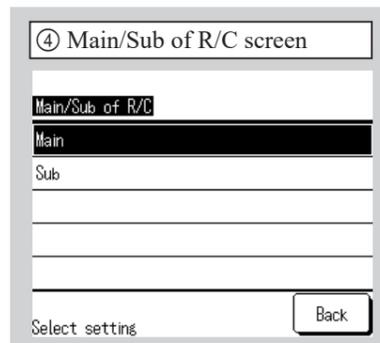
Tap and select R/C function settings.



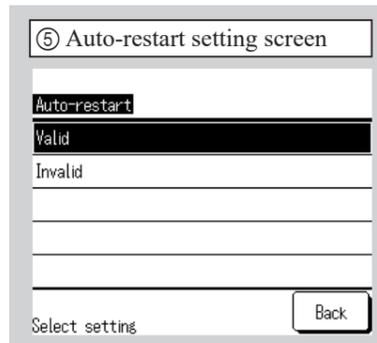
Tap and enter the 4-digit number of the service password, and select **Set**.
The service password is "9999".



Select the item you want to change. If you select Main/Sub of R/C, proceed to step ④. If you select Auto-restart, proceed to step ⑤.



Tap and select Main or Sub.



To change Auto-restart to Valid, select Valid.
When a power failure occurs while the unit is running, if [Valid] is selected, the unit will return to the state that existed before a power failure occurred as soon as the power is restored (control ends after the power is turned on).
[Invalid] Stop

Information

What is the Auto-restart?
This function automatically restores the operating state that existed before the power failure occurred when the power is restored, by storing the operating state that existed before the power failure occurred.
You can set Auto-restart to [Valid] to automatically restart the operation after the power is restored even if a power failure occurs.

Factory setting: [Valid]

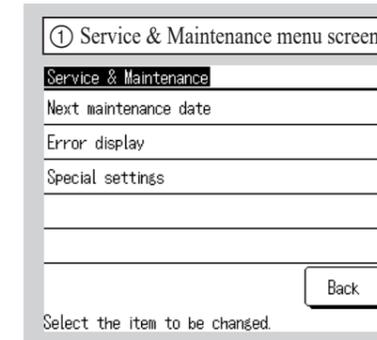
Information

Regarding the following settings for daily use, please refer to the user's manual and technical materials.

- Peak-cut settings
- Administrator settings
 - Permission/ Restriction setting, R/C display setting, Administrator password, Operation LED lighting setting, Stop running for OU temp
- R/C function settings

12. Service & Maintenance

You can set the display of Next maintenance date, check and delete the Error history of the Error display, or perform Special settings (CPU reset, initialisation, and Touch screen adjustment).

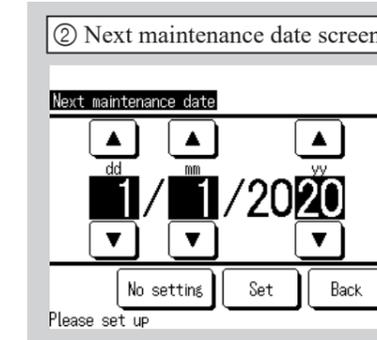


Tap and select the item you want to change.

To set the Next maintenance date, proceed to step ②.

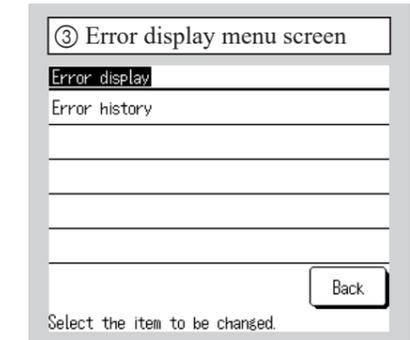
To set Error display, proceed to step ③.

To make Special settings, proceed to step ⑥.

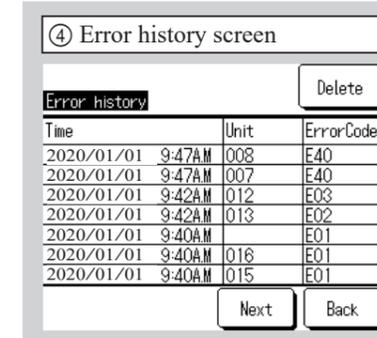


Use the ▲/▼ buttons to set the Next maintenance date, and select **Set** or **Back**.

When not setting the Next maintenance date, select **No setting**. When the set date is reached, the 🛎 mark will be displayed in the TOP screen.



Select Error history.



The error history is displayed.

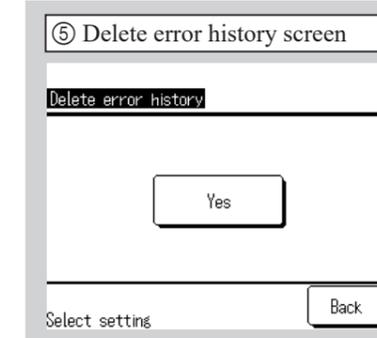
If the unit address is displayed, it indicates an error in the connected chilling unit.

If MCU-C is displayed, it indicates an error in the MCU controller.

Select **Next** or **Previous** to display the previous history.

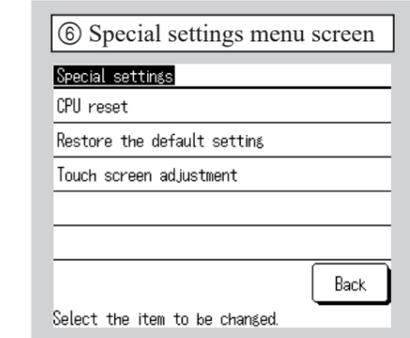
To delete the history, select **Delete**. Proceed to step ⑤.

To return to the previous screen, select **Back**.



To execute Delete error history, select **Yes**.

To cancel Delete, select **Back**.

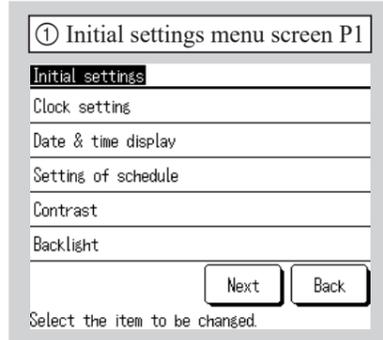


Select the item you want to execute or change.

Use CPU reset and Restore the default setting when performing the service. Touch screen adjustment can be adjusted when the touch operation is misaligned.

13. Initial settings

You can adjust the time, set whether to display the TOP screen for the time display, switch between the 12-hour and 24-hour time display method of Time in the TOP screen or the Setting of schedule screen, specify whether to set Setting of schedule to Valid or Invalid, adjust the contrast of the touch screen (entire and top/bottom), adjust the backlight (OFF/ON: lighting time), and set the Buzzer sound to ON/OFF.



Tap and select the item you want to change. To set the Buzzer sound, select **Next**.

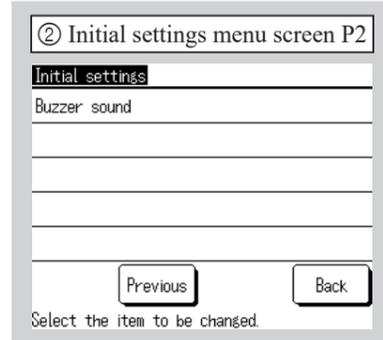
For Clock setting, proceed to "6. Initial settings at power-on" - Step ⑤.

For Date & time display, proceed to step ③.

For Setting of schedule, proceed to step ④.

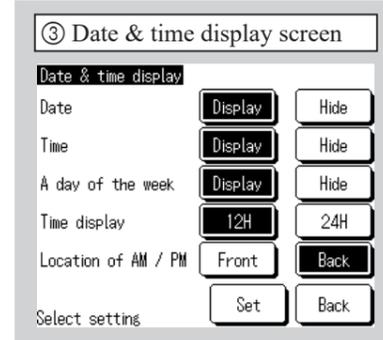
For Contrast, proceed to step ⑤.

For Backlight, proceed to step ⑦.



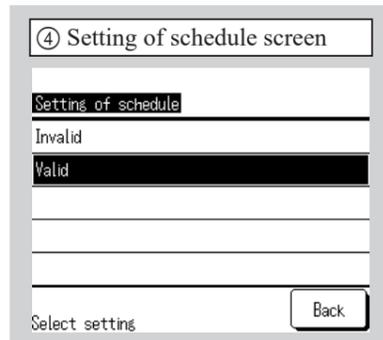
Select the Buzzer sound item.

For Buzzer sound setting, proceed to step ⑧.



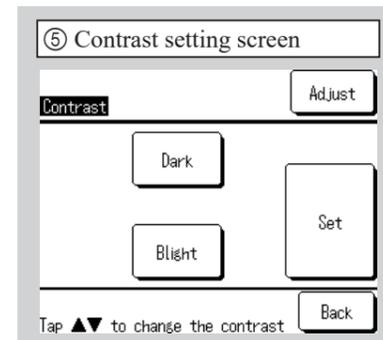
Select each item, and select **Set**.

If you select **Back**, the changed contents will not be reflected.



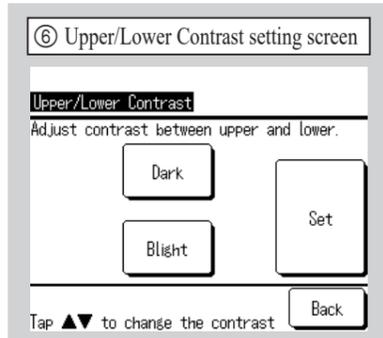
To set the specified schedule to Valid, select **Valid**. (Initial settings)

When not using the schedule function, select **Invalid**. If Invalid is set, the unit can only be operated using the Run/Stop button of the main body.



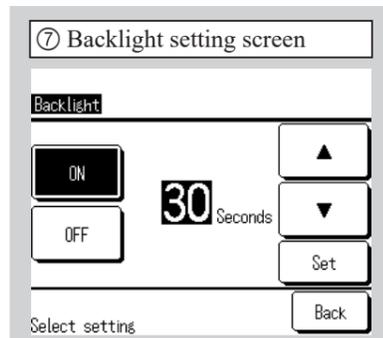
If you use the ▲/▼ buttons to adjust Dark/Blight for Adjust, select **Adjust**.

To return to the Initial settings menu screen, select **Set** or **Back**.

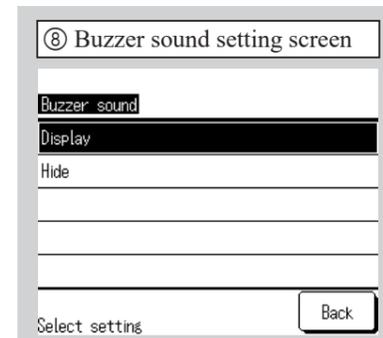


If you use the ▲/▼ buttons to adjust Dark/Blight and return to the contrast adjustment, select **Back**.

To return to the Initial settings menu screen, select **Set**.



If you select ON/OFF for Backlight and turn ON, use the ▲/▼ buttons to specify the lighting time, and select **Set** or **Back**.



To activate the buzzer, select Display.

To stop the buzzer, select Hide.