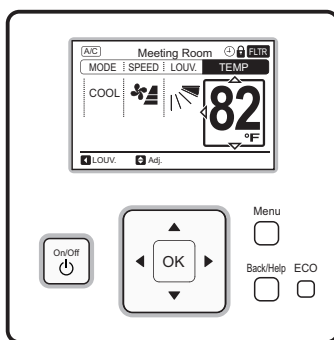


# **Installation & Maintenance Manual**

*Wired Controller*

- CIW01 -



**IMPORTANT:**

**READ AND UNDERSTAND  
THIS MANUAL BEFORE  
USING THIS WIRED  
CONTROLLER.  
KEEP THIS MANUAL FOR  
FUTURE REFERENCE.**

**P5415484**

## Important Notice



- Johnson Controls Inc. pursues a policy of continuing improvement in design and performance in its products. As such, Johnson Controls Inc. reserves the right to make changes at any time without prior notice.
- Johnson Controls Inc. cannot anticipate every possible circumstance that might involve a potential hazard.
- This heat pump air conditioning unit is designed for standard air conditioning applications only. Do not use this unit for anything other than the purposes for which it was intended for.
- The installer and system specialist shall safeguard against leakage in accordance with local pipefitter and electrical codes. The following standards may be applicable, if local regulations are not available. International Organization for Standardization: (ISO 5149 or European Standard, EN 378). No part of this manual may be reproduced in any way without the expressed written consent of Johnson Controls Inc. or York.
- This heat pump air conditioning unit will be operated and serviced in the United States of America and comes with a full complement of the appropriate Safety, Danger, and Caution, warnings.
- If you have questions, please contact your distributor or dealer.
- This manual provides common descriptions, basic and advanced information to maintain and service this heat pump air conditioning unit which you operate as well for other models.
- This manual should be considered as a permanent part of the air conditioning equipment and should remain with the air conditioning equipment.

## Product Inspection upon Arrival


1. Upon receiving this product, inspect it for any damages incurred in transit. Claims for damage, either apparent or concealed, should be filed immediately with the shipping company.
2. Check the model number, electrical characteristics (power supply, voltage, and frequency rating), and any accessories to determine if they agree with the purchase order.
3. The standard utilization for this unit is explained in these instructions. Use of this equipment for purposes other than what it designed for is not recommended.
4. Please contact your local agent or contractor as any issues involving installation, performance, or maintenance arise. Liability does not cover defects originating from unauthorized modifications performed by a customer without the written consent of Johnson Controls, Inc. and York. Performing any mechanical alterations on this product without the consent of the manufacturer will render your warranty null and void.

## 1. Safety Summary

### Signal Words

 <b>WARNING</b>	Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
 <b>CAUTION</b>	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
<b>NOTICE</b>	Indicates information considered important, but not hazard-related (for example, messages relating to property damage).

### General Precautions

 <b>WARNING</b>	To reduce the risk of serious injury or death, read these instructions thoroughly and follow all warnings or cautions included in all manuals that accompanied the product and are attached to the unit. <i>Refer back to these safety instructions as needed.</i>
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- This system, including this controller, should be installed by personnel certified by Johnson Controls, Inc. Personnel must be qualified according to local, state and national building and safety codes and regulations. Incorrect installation could cause leaks, electric shock, fire or an explosion. In areas where Seismic Performance requirements are specified, the appropriate measures should be taken during installation to guard against possible damage or injury that might occur in an earthquake. If the unit is not installed appropriately correctly, injuries may occur because of a falling unit.
- Use appropriate Personal Protective Equipment (PPE), such as gloves, protective goggles and electrical protection equipment and tools suited for electrical operation purposes.

- When transporting, be careful when picking up, moving and mounting these units. Although the controller may be packed using plastic straps, do not use them for transporting from one location to another. Do not stand on or put any material on the controller.
- When installing the controller cabling to the units, do not touch or adjust any safety devices inside the indoor or outdoor units. All safety features, disengagement, and interlocks must be in place and functioning correctly before the equipment is put into operation. If these devices are improperly adjusted or tampered with in any way, a serious accident can occur. Never bypass, wire around, or jump-out any safety device or switch.
- Use only Johnson Controls recommended, provided as standardized, or replacement parts.
- Johnson Controls shall will not assume any liability for injuries or damage caused by not following steps outlined or described in this manual. Unauthorized modifications to Johnson Controls products are prohibited as they...
  - May create hazards which could result in death, serious injury or equipment damage;
  - Will void product warranties;
  - May invalidate product regulatory certifications;
  - May violate OSHA standards;

## NOTICE

Take the following precautions to reduce the risk of property damage.

- Do not touch the main circuit board or electronic components in the controller or remote devices. Make sure that dust and/or steam does not accumulate on the circuit board.
- When installing the unit in a hospital or other facility where electromagnetic waves are generated from nearby medical and/or electronic devices, be prepared for noise and electronic interference Electromagnetic Interference (EMI). Do not install where the waves can directly radiate into the electrical box, controller cable, or controller. Inverters, appliances, high-frequency medical equipment, and radio communications equipment may cause the unit to malfunction. The operation of the unit may also adversely affect these same devices. Install the unit at least 10 ft. (approximately 3m) away from such devices.
- Locate the controller at a distance of at least 3 ft. (approximately 1m) between the indoor unit and electric lighting. Otherwise, the receiver part of the unit may have difficulty receiving operation commands.
- If the wired controller is installed in a location where electromagnetic radiation is generated, make sure that the wired controller is shielded and cables are sleeved inside conduit tubing.
- If there is a source of electrical interference near the power source, install noise suppression equipment (filter).
- During the test run, check the unit's operation temperature. If the unit is used in an environment where the temperature exceeds the operation boundary, it may cause severe damage. Check the operation temperature boundary in the manual. If there is no specified temperature, use the unit within the operation temperature boundary of 35° to 104°F (0 to 40°C).
- Read this installation and maintenance manual for properly electrical wiring work.

## Installation Precautions

### WARNING

Take the following precautions to reduce the risk of electric shock, fire or explosion resulting in serious injury or death:

- If the remote sensors are not used with this controller, then do not install this controller...
  - In a room where there is no thermostat.
  - Where the unit is exposed to direct sunshine or direct light.
  - Where the unit will be in close proximity to a heat source.
  - Where hot/cold air from the outdoors, or a draft from elsewhere (such as air vents, diffusers or grilles) can affect air circulation.
  - In areas with poor air circulation and ventilation.
- Perform a test run using the controller to ensure normal operation. Safety guards, shields, barriers, covers, and protective devices must be in place while the compressor/unit is operating. During the test run, keep fingers and clothing away from any moving parts.

After installation work for the system has been completed, explain the "Safety Precautions," use, and maintenance of the unit to the customer according to the information in all manuals that accompanied the system. All manuals and warranty information must be given to the user or left near the Indoor Unit.

## Electrical Precautions

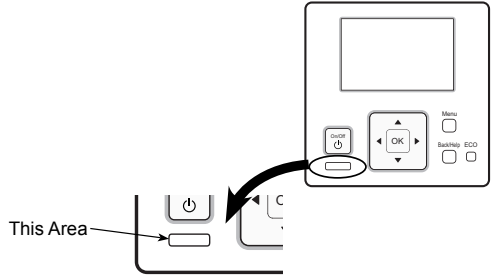


Take the following precautions to reduce the risk of electric shock, fire or explosion resulting in serious injury or death:

- Only use electrical protection equipment and tools suited for this installation.
- Insulate the wired controller against moisture and temperature extremes.
- Use specified cables between units and the controller.
- Communication cabling shall be a minimum of 18-Gauge, 2-Conductor, Stranded Copper. Shielded cable must be considered for applications and routing in areas of high EMI and other sources of potentially excessive electrical noise to reduce the potential for communication errors. When shielded cabling is applied, proper bonding and termination of the cable shield is required as per Johnson Controls guidelines. Plenum and riser ratings for communication cables must be considered per application and local code requirements.
- The polarity of the input terminals is important, so be sure to match the polarity when using contacts that have polarity.
- Highly dangerous electrical voltages may be used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause serious injury or death.
- Before installing the controller or remote devices, ensure that the indoor and outdoor unit operation has been stopped. Further, be sure to wait at least five minutes before turning off the main power switch to the indoor or outdoor units. Otherwise, water leakage or electrical breakdown may result.
- Do not open the service cover or access panel to the indoor or outdoor units without turning OFF the main power supply. Before connecting or servicing the controller or cables to indoor or outdoor units, open and tag all disconnect switches. Never assume electrical power is disconnected. Check with a meter and equipment.
- Use an exclusive power supply at the controller's rated voltage.
- Be sure to install circuit breakers (ground fault interrupter, isolating switch, molded case circuit breaker, and so forth) with the specified capacity. Ensure that the wiring terminals are tightened securely to recommended torque specifications.
- Clamp electrical wires securely with a cord clamp after all wiring is connected to the terminal block. In addition, run wires securely through the wiring access channel.
- When installing the power lines, do not apply tension to the cables. Secure the suspended cables at regular intervals, but not too tightly.
- Make sure that the terminals do not come into contact with the surface of the electrical box. If the terminals are too close to the surface, it may lead to failures at the terminal connection.
- Do not clean with, or pour water into, the controller as it could cause electric shock and/or damage the unit. Do not use strong detergent such as a solvent. Clean with a soft cloth.
- Check that the ground wire is securely connected. Do not connect ground wiring to gas piping, water piping, lighting conductor, or telephone ground wiring.

## 2. Brand Label

Select the accessory brand label according to the production order. (HITACHI or YORK)  
Attach the accessory brand logo label to this area.



The box  is to verify your work. Check-off each task to verify that it has been done.

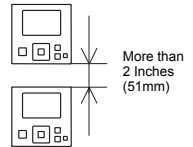
## 3. Installation Work

### [3.1 Selection of Installation Place]

- 1. Select a suitable staging area in which to assemble the unit. With the customer's approval, determine the best placement of the assembled unit. Choose a safe, sequestered area where the inquisitive can't reach it, and keep it out the way of any direct air discharge.

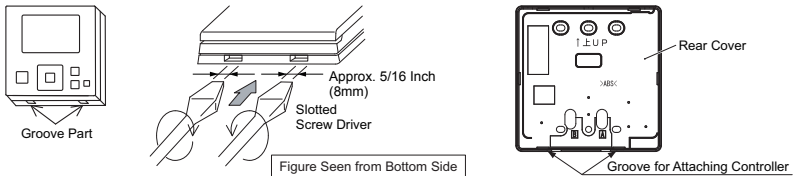
### [3.2 Prior to Installation]

- 1. This packing contains the following parts.
  - [A] Wired Controller (Qty.: 1 - For Operation Control)
  - [B] Screw <M4x16L> (Qty.: 2, For securing the mounting bracket to the wall.)
  - [C] Operation Manual (Qty.: 1)



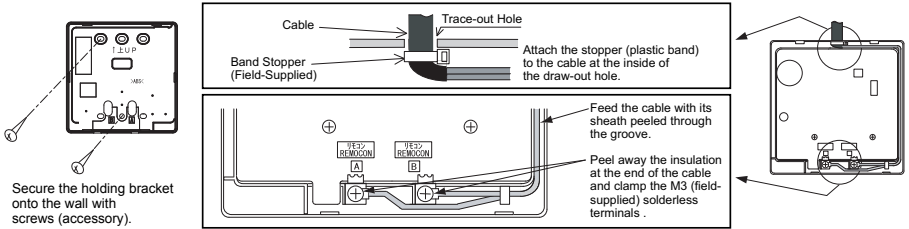
### [3.3 Installation Procedures]

- 1. Insert the edge of the slotted screwdriver into the groove at the bottom of the holding bracket, push and turn the slotted screwdriver to separate and remove the controller from the holding bracket.



□ 2. Attach the controller to the holding bracket and connect the cable as follows.

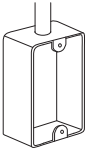
**A. In Case of Exposing the Controller Cable**



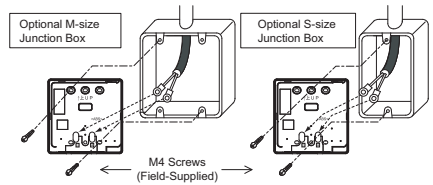
Secure the holding bracket onto the wall with screws (accessory).

**B. When Using Junction Box**

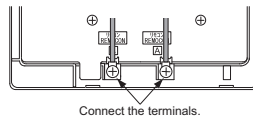
1. Prepare the optional field-supplied Implanted Junction Box.



2. Feed the cable through the conduit tubing in the wall.



3. Cut away the insulation at the end of the cable and clamp the M3 solderless terminals (field-supplied).



□ 3. Attach the controller body to the mounted holding bracket. Be careful not to pinch the cable when attaching it.

□ 4. Peel away the protective film from the liquid crystal display.

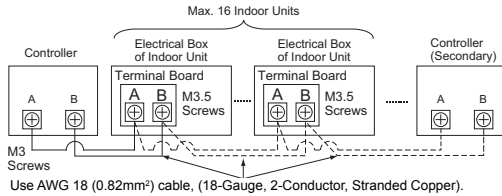


## 4. Electrical Wiring

Example of Communication Cabling:

### ATTENTION:

Disconnect all power at the main power source before performing electrical work. Failure to do this can result in fire, damage to internal components and severe or fatal electrical shock.



### NOTICE

- Communication cabling shall be a minimum of 18-Gauge, 2-Conductor, Stranded Copper. Shielded cable must be considered for applications and routing in areas of high EMI and other sources of potentially excessive electrical noise to reduce the potential for communication errors. When shielded cabling is applied, proper bonding and termination of the cable shield is required as per Johnson Controls guidelines. Plenum and riser ratings for communication cables must be considered per application and local code requirements. The use of any other grade of cable other than that specified above can result in damage from electronic interference (EMI).
- Maintain a distance more than 11-13/16 inches (30cm) between the communication cables, (controller cable and communication cables) and power source of the indoor units. If this is not done, the unit can malfunction due to electromagnetic interference (EMI) generated by incoming power cables from the power source.
- In systems where multiple indoor units are in synchronized control under a single controller, assign the refrigerant cycle numbers and address for indoor units without duplication.
- Refer to the "Unit No. Setting" of each Installation and Maintenance manual provided with indoor unit when performing electrical wiring work between the controller and indoor units for setting the refrigerant cycle number and the indoor unit address.
- No gap should exist between the controller cable and the cable access inlet of the controller box casing. If there is a gap, cover and seal the gap with vinyl tape. Failure to insulate against the penetration of moisture and insects can result in degraded performance and damage to the unit.
- If case of operating with two controllers (Primary and Secondary), set the primary and secondary controllers by selecting the appropriate function for those controllers. Refer to Section 6. After this is set, turn OFF the power supply to all indoor units connected to these controllers.

## 5. Checking Procedures

- Turn ON the power supply for all the indoor units.

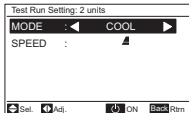
- For models equipped with an auto-address function, wait approximately 3 minutes. This function is being automatically performed. (There is a built-in five minute requirement according to the setting condition.) After that, select using language from the "Menu". Refer to the "Language Setting" of the CIW01's operation manual for details.

- Press and hold "Menu" and "Back/Help" simultaneously for at least three seconds. The Test Run menu will display.

- Select "Test Run" by pressing "Δ ∇" and press "OK". The Test Run screen will be displayed.

- Test Run

- The Test Run screen is displayed.



### NOTE

When "00" is displayed, the auto-address function may be activated. Cancel "Test Run" mode and set it again.

- The total number of the indoor units connected is indicated on the LCD (liquid crystal display).
- If a number other than a correct number is displayed, the auto-address function will not work properly due to improper wiring or electrical interference and so forth. Turn OFF the power supply, check the following items and perform the correct connection. (Do not repeat turning ON and OFF within 10 seconds.)
  - The power supply to the indoor unit was not turned ON or there is an incorrect wiring issue.
  - There was an incorrect connection issue regarding interconnecting cables between indoor units or of the controller cable.
  - There was an incorrect setting of the rotary switch and DIP switches (the settings were overlapped), on the printed circuit board (PCB) for the indoor unit.

- Press "⏻" (On/Off) to again to activate Test Run.
- Press "Δ ∇ <▷" and set each item.

- Canceling "Test Run" Mode

- When the unit is not in operation, press "Back/Help".
- When the unit is in operation, press "⏻" (On/Off).

## 6. Function Selection and Input/Output Setting from the Controller

### • Setting from Test Run Menu

1. Press and hold "Menu" and "Back/Help" simultaneously for at least three seconds during the normal mode (when unit is not operated). The Test Run menu will be displayed.

2. Select "Function Selection" or "Input/Output" from the Test Run menu and press "OK".

3. Select the indoor unit by pressing " $\Delta \nabla < \triangleright$ " and touch "OK". (This screen is NOT displayed when the number of an indoor unit connected with the controller is "1". In this case, "4" will be displayed.)

Function Selection			
All			
01-01			
01-02			
01-03			
01-04			

#### Function Selection

4. Press " $\Delta \nabla$ " and select the item.

Function Selection:01-03	
Item	Setting
b1	00
b2	00
b3	00
b4	00
b5	00

5. Press "<math>\triangleleft \triangleright</math>" and change the setting.

Function Selection:01-03	
Item	Setting
b1	00
b2	00
b3	01
b4	00
b5	00

#### Input/Output Setting

4. Press " $\Delta \nabla$ " and select the item.

Input/Output:01-03		
Item	Setting	Connector
Input 1	00	CN3 1-2
Input 2	00	CN3 2-3
Output1	00	CN7 1-2
Output2	00	CN7 1-3
Output3	00	CN8 1-2

5. Press "<math>\triangleleft \triangleright</math>" and change the setting.

Input/Output:01-03		
Item	Setting	Connector
Input 1	00	CN3 1-2
Input 2	00	CN3 2-3
Output1	01	CN7 1-2
Output2	00	CN7 1-3
Output3	00	CN8 1-2

6. Press "OK" so that the confirmation screen will be displayed.

7. Select "Yes" and press "OK". The Test Run menu will be displayed after the setting is confirmed. If "No" is selected, the screen will return to "4".

8. Press "Back/Help" on the Test Run menu to return to the normal mode.

(Figure for Function Selection)

To set other units, press "Back/Help" at "4" and "5" so that the screen will return to "3".  
(If the number of an indoor unit connected with the controller is "1", the screen will return to "1".)



• Table A: Optional Setting Items for Function Selection

No.	Items	Optional Function	Individual Setting	Setting Condition	Contents	Setting
1	b1	Cancellation of Heating Temperature Compensation due to Uneven Heat Load	○	00 01 02 03 04	Standard (Set Temp. +7°F (+4°C)) Removal (Set Temp.) Set Temp. +3°F (+2°C) (*1) Set Temp. +5°F (+3°C) Set Temp. +2°F (+1°C)	
2	b2	Circulator Function during Heating Thermo-OFF	○	00 01	Not Available Available	
3	b3	Not Prepared	-	-	Not Used (Use as 00 conditions)	
4	b4	Change of Filter Cleaning Time	○	00 01 02 03 04	Standard 1,200 hrs (Factory-Setting) 100 hrs 1,200 hrs 2,500 hrs No Indication	
5	b5	Fixing of Operation Mode	✕	00 01	Standard Fixed	
6	b6	Fixing of Setting Temperature	✕	00 01	Standard Fixed	
7	b7	Fixing of Operation as Exclusive Cooling Unit	✕	00 01	Standard Fixed	
8	b8	Automatic COOL/HEAT Operation	✕	00 01	Not Available Available	
9	b9	Fixing of Fan Speed	✕	00 01	Standard Fixed	
10	bA	Not Prepared	-	-	Not Used	
11	bb	Cooling Temperature Compensation due to Uneven Heat Load	✕	00 01 02	Standard (No Compensation) Set Temp. -2°F (-1°C) Set Temp. -3°F (-2°C)	
12	bC	Not Prepared	-	-	Not Used (Use as 00 conditions)	
13	bd	Not Prepared	-	-	Not Used (Use as 00 conditions)	
14	bE	Not Prepared	-	-	Not Used (Use as 00 conditions)	
15	C1	Not Prepared	-	-	Not Used (Use as 00 conditions)	
16	C2	Not Prepared	-	-	Not Used	
17	C3	Not Prepared	-	-	Not Used	
18	C4	Not Prepared	-	-	Not Used	
19	C5	Hi Speed (Except for Hi Speed during Heating Thermo-OFF)	○	00 01 02	Not Available Hi Speed 1 (*2) Hi Speed 2	
20	C6	Hi Speed during Heating Thermo-OFF	○	00 01	Not Available Available	
21	C7	Canceling of Enforced 3 Minutes Minimum Operation Time of Compressor	○	00 01	Standard Cancellation	
22	C8	Thermistor of Wired Controller	○	00 01 02  00 01 02	< If Wired Controller Thermistor is Selected > Not Available Control by Thermistor of Wired Controller Control by Average Value of Indoor Suction Thermistor and Thermistor of Wired Controller  < If Remote Sensor is Selected > Control by Average Value of Indoor Suction Thermistor and Remote Sensor Control by Remote Sensor Same as "00"	
23	C9	Not Prepared	-	-	Not Used	
24	CA	Not Prepared	-	-	Not Used	
25	Cb	Selection of Forced Stoppage Logic	○	00 01	Forced Stoppage Input: A Contact Forced Stoppage Input: B Contact	
26	CC	Not Prepared	-	-	Not Used (Use as 00 conditions)	
27	Cd	Not Prepared	-	-	Not Used (Use as 00 conditions)	
28	CE	Not Prepared	-	-	Not Used (Use as 00 conditions)	

No.	Items	Optional Function	Individual Setting	Setting Condition	Contents	Setting
29	CF	Change of Louver Swing Angle	○	00 01 02	Standard (7-Step Operation) Cold Draft Prevention (5 Steps: lower 2 steps cut off) High Ceiling (higher 2 steps cut off)	
30	d1	Power Supply ON/OFF 1	○	00 01	Not Available Available	
31	d2	Not Prepared	-	-	Not Used	
32	d3	Power Supply ON/OFF 2	○	00 01	Not Available Available	
33	d4	Not Prepared	-	-	Not Used (Use as 00 conditions)	
34	d5	Prevention for Heating Discharge Air Temp. Decrease	○	00 01	Not Available Available	
35	d6	Not Prepared	-	-	Not Used (Use as 00 conditions)	
36	d7	Not Prepared	-	-	Not Used	
37	E1	Not Prepared	-	-	Not Used (Use as 00 conditions)	
38	E2	Not Prepared	-	-	Not Used (Use as 00 conditions)	
39	E3	Not Prepared	-	-	Not Used (Use as 00 conditions)	
40	E4	Not Prepared	-	-	Not Used (Use as 00 conditions)	
41	E5	Not Prepared	-	-	Not Used (Use as 00 conditions)	
42	E6	Indoor Fan Operation Time After Cooling Operation Stoppage	○	00 01 02	Not Available 60 min. 120 min.	
43	E7	Not Prepared	-	-	Not Used (Use as 00 conditions)	
44	E8	Fan Operation Control during Heating Thermo-OFF	○	00 01	Not Available (LOW) SLOW	
45	E9	Not Prepared	-	-	Not Used (Use as 00 conditions)	
46	EA	Not Prepared	-	-	Not Used (Use as 00 conditions)	
47	Eb	Fan Operation Control during Cooling Thermo-OFF	○	00 01 02	Not Available LOW SLOW	
48	EC	Forced Thermo-ON Stoppage during Cooling	○	00 01	Not Available Available	
49	Ed	Not Prepared	-	-	Not Used (Use as 00 conditions)	
50	EE	Automatic Fan Speed Control	○	00 01	Not Available Available	
51	EF	Automatic Fan Speed Control (High 2)	○	00 01	Not Available Available	
52	F0	Not Prepared	-	-	Not Used	
53	F1	Automatic OFF Timer Setting  * Do not set the functions "0C"~"0F" when 2 (two) wired controllers are used in the same controller group.	×	00 01 02 • • • 23 24 0A 0B 0C 0D 0E 0F	No Function OFF Timer by 1 hr OFF Timer by 2 hrs OFF Timer by 23 hrs OFF Timer by 24 hrs OFF Timer by 30 min. OFF Timer by 90 min. OFF Timer by 40 min. OFF Timer by 45 min. OFF Timer by 50 min. OFF Timer by 55 min. Do not set them when two wired controllers are used.	
54	F2	Wired Controller Primary-Secondary Setting	×	00 01	Primary Secondary	
55	F3	Automatic Reset of Setting Temperature (*3)	×	00 01	Not Available Available	
56	F4	Automatic Reset Time	×	00 01 02 03	30 min. (Factory-Setting) 15 min. 60 min. 90 min.	

No.	Items	Optional Function	Individual Setting	Setting Condition	Contents	Setting
57	F5	Automatic Reset Temperature for Cooling (*4)	×	66 (19) 68 (20) 70 (21) 72 (22) 74 (23) 76 (24) 77 (25) 78 (26) 80 (27) 82 (28) 84 (29) 86 (30)	66°F (19°C) 68°F (20°C) 70°F (21°C) 72°F (22°C) 74°F (23°C) 76°F (24°C) 77°F (25°C) (Factory-Setting) 78°F (26°C) 80°F (27°C) 82°F (28°C) 84°F (29°C) 86°F (30°C)	
58	F6	Automatic Reset Temperature for Heating (*5)	×	62 (17) 64 (18) 66 (19) 68 (20) 70 (21) 72 (22) 74 (23) 76 (24) 77 (25) 78 (26) 80 (27) 82 (28) 84 (29) 86 (30)	62°F (17°C) 64°F (18°C) 66°F (19°C) 68°F (20°C) 70°F (21°C) (Factory-Setting) 72°F (22°C) 74°F (23°C) 76°F (24°C) 77°F (25°C) 78°F (26°C) 80°F (27°C) 82°F (28°C) 84°F (29°C) 86°F (30°C)	
59	F7	Operation Stoppage Prevention by Wired Controller Operational Error (*6)	×	00 01	Not Available Available	
60	F8	Lock Function for Operation Mode Selection	×	00 01	Not Available Available (Factory-Setting)	
61	F9	Lock Function for Temperature Setting	×	00 01	Not Available Available (Factory-Setting)	
62	FA	Lock Function for Fan Speed Selection	×	00 01	Not Available Available (Factory-Setting)	
63	Fb	Lock Function for Swing Louver Operation	×	00 01	Not Available Available (Factory-Setting)	
64	FC	Cooling Lower Limit for Setting Temperature (*4)	×	00 01 02 03 04 05 06 07 08 09 10	66°F (19°C) 68°F (20°C) 70°F (21°C) 72°F (22°C) 74°F (23°C) 76°F (24°C) 77°F (25°C) 78°F (26°C) 80°F (27°C) 82°F (28°C) 84°F (29°C)	
65	Fd	Heating Upper Limit for Setting Temperature (*5)	×	00 01 02 03 04 05 06 07 08 09 10 11 12	86°F (30°C) 84°F (29°C) 82°F (28°C) 80°F (27°C) 78°F (26°C) 77°F (25°C) 76°F (24°C) 74°F (23°C) 72°F (22°C) 70°F (21°C) 68°F (20°C) 66°F (19°C) 64°F (18°C)	
66	FE	Not Prepared	-	-	Not Used (Use as 00 conditions)	
67	FF	Not Prepared	-	-	Not Used (Use as 00 conditions)	
68	H1	Maintenance Alarm	×	00 01	Show Hide	

No.	Items	Optional Function	Individual Setting	Setting Condition	Contents	Setting
69	H2	No Indication of Auto Control	×	00 01	Show Not Show	
70	H3	Not Prepared	-	-	Not Used (Use as 00 conditions)	
71	H4	Not Prepared	-	-	Not Used (Use as 00 conditions)	
72	J1	Not Prepared	-	-	Not Used (Use as 00 conditions)	
73	J2	Not Prepared	-	-	Not Used	
74	J3	Run Indicator Color	×	00 01	Green Red	
75	J4	Not Prepared	-	-	Not Used (Use as 00 conditions)	
76	J5	Not Prepared	-	-	Not Used (Use as 00 conditions)	
77	J6	Not Prepared	-	-	Not Used (Use as 00 conditions)	
78	J7	Not Prepared	-	-	Not Used (Use as 00 conditions)	
79	J8	Eco-operation (*7)	×	00 01	Not Available Available	
80	J9	Not Prepared	-	-	Not Used (Use as 00 conditions)	
81	JA	Not Prepared	-	-	Not Used (Use as 00 conditions)	
82	Jb	Not Prepared	-	-	Not Used (Use as 00 conditions)	
83	K1	Not Prepared	-	-	Not Used (Use as 00 conditions)	
84	K2	Not Prepared	-	-	Not Used (Use as 00 conditions)	
85	K3	Not Prepared	-	-	Not Used (Use as 00 conditions)	
86	K4	Not Prepared	-	-	Not Used (Use as 00 conditions)	
87	K5	Motion Sensor Detection Level	○	00 01 02	Standard High Low	
88	K6	Operation Setting during Thermistor of Wired Controller or Remote Sensor	○	00 01 02 03	ALL COOL/DRY HEAT ALL	
89	K7	Radiation Temperature Sensor Calibration	○	00 01 02 03	Normal Upper Lower Normal	
90	K8	Control of Dew Condensation Prevention (Only for Mini Cassette Type)	○	00 01	Not Available Available	
91	K9	Not Prepared	-	-	Not Used (Use as 00 conditions)	
92	KA	Not Prepared	-	-	Not Used (Use as 00 conditions)	
93	L1	Setting Position of Motion Sensor	○	00 01 02 03	A B - D	
94	L2	Not Prepared	-	-	Not Used (Use as 00 conditions)	
95	L3	Lower Setting during Energy-Saving Forced Thermo-OFF (Only for Mini Cassette Type)	○	00 01 02 03	Recive Air: Low (Standard) Recive Air: Medium Recive Air: High Not Available	
96	L4	Fan Speed during Energy-Saving Forced Thermo-OFF	○	00 01	Not Available (Standard) Available	
97	L5	Lower Swing Operation Energy-Saving Forced Thermo-OFF	○	00 01	Not Available Available	
98	L6	Not Prepared	-	-	Not Used (Use as 00 conditions)	
99	L7	Not Prepared	-	-	Not Used (Use as 00 conditions)	
100	L8	Not Prepared	-	-	Not Used (Use as 00 conditions)	
101	L9	Auxiliary Heater at Defrosting Operation	○	00 01	ON OFF	
102	LA	Not Prepared	-	-	Not Used (Use as 00 conditions)	
103	Lb	Not Prepared	-	-	Not Used (Use as 00 conditions)	
104	P1	Setting Temperature	×	00 01	Every 1°F (0.5°C) Every 2°F (1°C)	

No.	Items	Optional Function	Individual Setting	Setting Condition	Contents	Setting
105	P2	Not Prepared	-	-	Not Used (Use as 00 conditions)	
106	P3	Thermistor Selection	×	00 01 02 03	Inlet Air Thermistor Outlet Air Thermistor Thermistor of Wired Controller Remote Sensor	
107	P4	Display of Thermistor Temperature	×	00 01	Not Available Available	
108	P5	Display during Setting Temperature	×	00 01	Displyed Undisplyed	
109	P6	ECO Button Operation	×	00 01	Available Not Available	
110	P7	Menu Screen Transition Prohibited	×	00 01	Not Available Available	
111	P8	Not Prepared	-	-	Not Used (Use as 00 conditions)	
112	P9	Not Prepared	-	-	Not Used (Use as 00 conditions)	
113	PA	Daylight Saving Time	×	00 01	1 hr 2 hrs	
114	Pb	Not Prepared	-	-	Not Used (Use as 00 conditions)	
115	PC	Not Prepared	-	-	Not Used (Use as 00 conditions)	
116	q1	Auxiliary Heater Setting	×	00 01	Not Available Available	
117	q2	Auxiliary Heater ON Compensation	×	-3(-1.5) -4(-2.5) -5(-3.0) -6(-3.5) -7(-4.0) -8(-4.5) -9(-5.0) -1(-0.5) -2(-1.0)	-3°F (-1.5°C) -4°F (-2.5°C) -5°F (-3.0°C) -6°F (-3.5°C) -7°F (-4.0°C) -8°F (-4.5°C) -9°F (-5.0°C) -1°F (-0.5°C) -2°F (-1.0°C)	
118	q3	Auxiliary Heater OFF Compensation	×	0(0.0) 1(0.5)	0°F (0.0°C) 1°F (0.5°C)	
119	q4	Ambient Temperature Restriction Setpoint	×	-4(-20.0) 2(-17.0) 8(-13.0) 14(-10.0) 20(- 7.0) 26(- 3.0) 32( 0.0) -13(-25.0) -8(-22.0)	-4°F (-20.0°C) 2°F (-17.0°C) 8°F (-13.0°C) 14°F (-10.0°C) 20°F (- 7.0°C) 26°F (- 3.0°C) 32°F ( 0.0°C) -13°F (-25.0°C) -8°F (-22.0°C)	
120	q5	Ambient Temperature Restriction Setpoint Compensation	×	4(2.5) 5(3.0) 6(3.5) 1(0.5) 2(1.0) 3(1.5)	4°F (2.5°C) 5°F (3.0°C) 6°F (3.5°C) 1°F (0.5°C) 2°F (1.0°C) 3°F (1.5°C)	
121	q6	Not Prepared	-	-	Not Used (Use as 00 conditions)	
122	q7	Not Prepared	-	-	Not Used (Use as 00 conditions)	
123	q8	Not Prepared	-	-	Not Used (Use as 00 conditions)	
124	q9	Not Prepared	-	-	Not Used (Use as 00 conditions)	
125	qA	Not Prepared	-	-	Not Used (Use as 00 conditions)	
126	qB	Not Prepared	-	-	Not Used (Use as 00 conditions)	
127	qC	Not Prepared	-	-	Not Used (Use as 00 conditions)	
128	qD	Not Prepared	-	-	Not Used (Use as 00 conditions)	
129	r1	Dual Setpoint	×	00 01	Not Available Available	
130	r2	Cooling/Heating Changeover Temperature	×	2(1.0) 3(1.5) 4(2.5) 5(3.0) 1(0.5)	2°F (1.0°C) 3°F (1.5°C) 4°F (2.5°C) 5°F (3.0°C) 1°F (0.5°C)	

No.	Items	Optional Function	Individual Setting	Setting Condition	Contents	Setting
131	r3	Setback Temperature Compensation	X	4(2.5) 5(3.0) 6(3.5) 7(4.0) 8(4.5) 9(5.0) 10(5.5) 1(0.5) 2(1.0) 3(1.5)	4°F (2.5°C) 5°F (3.0°C) 6°F (3.5°C) 7°F (4.0°C) 8°F (4.5°C) 9°F (5.0°C) 10°F (5.5°C) 1°F (0.5°C) 2°F (1.0°C) 3°F (1.5°C)	
132	r4	Not Prepared	-	-	Not Used (Use as 00 conditions)	
133	r5	Not Prepared	-	-	Not Used (Use as 00 conditions)	
134	r6	Not Prepared	-	-	Not Used (Use as 00 conditions)	
135	r7	Not Prepared	-	-	Not Used (Use as 00 conditions)	
136	r8	Not Prepared	-	-	Not Used (Use as 00 conditions)	
137	r9	Not Prepared	-	-	Not Used (Use as 00 conditions)	
138	rA	Not Prepared	-	-	Not Used (Use as 00 conditions)	
139	rb	Not Prepared	-	-	Not Used (Use as 00 conditions)	
140	S1	Not Prepared	-	-	Not Used (Use as 00 conditions)	
141	S2	Not Prepared	-	-	Not Used (Use as 00 conditions)	
142	S3	Not Prepared	-	-	Not Used (Use as 00 conditions)	
143	S4	Not Prepared	-	-	Not Used (Use as 00 conditions)	
144	S5	Not Prepared	-	-	Not Used (Use as 00 conditions)	
145	S6	Not Prepared	-	-	Not Used (Use as 00 conditions)	
146	S7	Not Prepared	-	-	Not Used (Use as 00 conditions)	
147	S8	Not Prepared	-	-	Not Used (Use as 00 conditions)	

(\*1): The "02", "03", "04" settings may not be available depending on the type of indoor unit.

When connecting multiple indoor units, do separate settings.

(\*2): If Duct type models, 00: Increasing fan speed 1 (standard), 01: Increasing fan speed 2 (high static pressure), 02: Standard (low static pressure).

(\*3): If the set temperature is changed and kept within the set time at "F4", the temperature is automatically changed to "F5" and "F6". (If the set temperature is out of range at "F5" and "F6", it is applied within the upper and lower limits for the set temperature.)

(\*4): Applicable to the fan, cooling and dry operation modes.

(\*5): Applicable to the heating operation mode.

(\*6): Operation is stopped by pressing the "⏻" (On/Off) button for three seconds.

(\*7): When the unit is restarted by the controller, the temperature automatically changes to the setting temperature of "F5" or "F6".

#### NOTE:

1. After at least three minutes from power ON, change the optional setting.
2. When changing the "CF" setting (change of louver swing angle), restore the power supply or allow the louver to make one complete swing fully in the auto-swing mode to apply the optional setting.
3. The optional settings may be different according to the indoor and outdoor unit models.  
Check to ensure that the unit has the optional setting.
4. Record the setting conditions for each optional setting in the "Setting" column of the table below.
5. The above optional functions marked with an "X" at the individual setting can change the condition only when "All Rooms" is set.

● Table B: Input and Output Number Display and Connectors

Input Number Display Input/Output Indication	Port	Factory Setting		Setting
		Setting Item	Indication	
Input 1	CN3 1-2	Remote ON/OFF 1 (Level)	03	
Input 2	CN3 2-3	Prohibiting Remote Control after Manual Stoppage	06	
Output 1	CN7 1-2	Operation	01	
Output 2	CN7 1-3	Alarm	02	
Output 3	CN8 1-2	Thermo-ON for Heating	06	

● Table C: Input and Output Settings and Display Codes

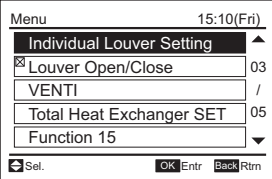
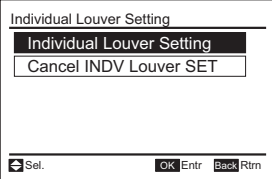
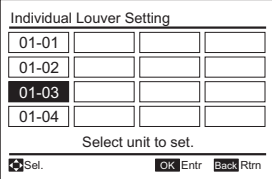
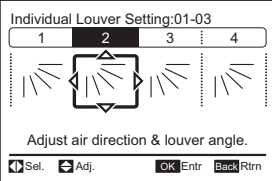
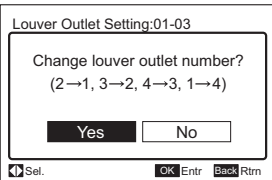
Code Indicated	Input	Output
00	Not set	Not set
01	Room Thermostat (for Cooling)	Operation
02	Room Thermostat (for Heating)	Alarm
03	Remote ON/OFF 1 (Level)	Cooling
04	Remote ON/OFF 2 (Operation)	Thermo-ON for Cooling
05	Remote ON/OFF 2 (Stoppage)	Heating
06	Forbidding Remote Control after Manual Stoppage	Thermo-ON for Heating
07	Remote Cooling / Heating Change	Total Heat Exchanger
09	Setback Operation	

**NOTES:**

- \* Change the optional setting after waiting at least three minutes elapsed time after start-up.
- \* Do not set the elevating grille for the total heat exchanger.
- \* Record the setting conditions for each input and output in the "Setting" column of the table.

## 7. Individual Louver Setting

This setting is available only for an indoor unit equipped with just an individual louver. Each louver angle can be set individually as shown in the following procedure.

<p>1. Press and hold "Menu" while in the normal mode (when the unit is in operation). The menu will be displayed.</p>	 <p>Menu 15:10(Fri) Individual Louver Setting ▲ ⊗ Louver Open/Close 03 VENTI / Total Heat Exchanger SET 05 Function 15 ▼ Sel. OK Entr Back Rtrn</p>
<p>2. Select "Individual Louver Setting" from the menu and press "OK". The louver setting will be displayed.</p>	 <p>Individual Louver Setting Individual Louver Setting Cancel INDV Louver SET Sel. OK Entr Back Rtrn</p>
<p>3. Select "Individual Louver Setting" from the louver setting and press "OK".</p>	 <p>Individual Louver Setting Individual Louver Setting 01-01 01-02 01-03 01-04 Select unit to set. Sel. OK Entr Back Rtrn</p>
<p>4. Select the indoor unit to change the louver direction by pressing "Δ ▽ &lt;▷" and press "OK". (This screen is NOT displayed when the number of indoor unit connected with the controller is one. In this case, "5" will be displayed.)</p>	 <p>Individual Louver Setting:01-03 1 2 3 4 Adjust air direction &amp; louver angle. Sel. Adj. OK Entr Back Rtrn</p>
<p>5. Press "&lt;▷" and select louver direction. The selected louver is opened and the other louvers are closed.</p>	 <p>Louver Outlet Setting:01-03 Change louver outlet number? (2→1, 3→2, 4→3, 1→4) Yes No Sel. OK Entr Back Rtrn</p>
<p>6. Press "Menu" while "Back/Help" is pressed. The confirmation screen will be displayed.</p> <p>7. Select "Yes" and press "OK". The setting "5" will be displayed after the setting change is confirmed. If "No" is selected and "OK" is pressed, the screen will return to "5".</p> <ul style="list-style-type: none"> <li>Regarding "Individual Louver Setting", the louver selected at "5" will be set as number "1" and the other louver number will automatically be changed clockwise as shown at right.</li> </ul>	

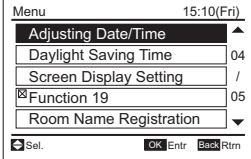
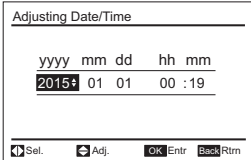
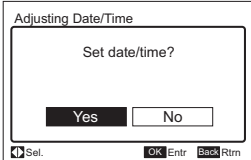
### NOTE:

This "Individual Louver Setting" is NOT available when two controllers are used in the same group. (including a combination with a Wired Controller + Wireless Controller).



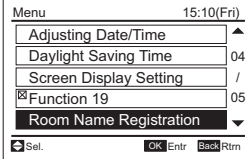
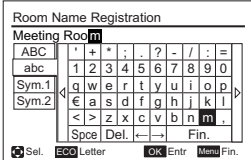
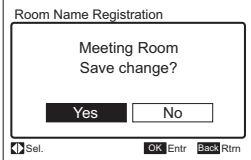
## 8. Adjusting Date/Time

The date and time can be set from "Adjusting Date/Time".

<p>1. Press "Menu" while in the normal mode. The menu will be displayed.</p>	
<p>2. Select "Adjusting Date/Time" from the menu and press "OK".</p>	
<p>3. Press "&lt; &gt;" and select "yyyy/mm/dd/hh/mm".</p>	
<p>4. Press "Δ ∇" and set the date and time. (Press or keep pressing "Δ ∇" to adjust numbers.)</p>	
<p>5. After the setting is completed, press "OK" so that the confirmation screen will be displayed.</p>	
<p>6. Select "Yes" and press "OK". The screen will return to the normal mode after the setting is confirmed. If "No" is pressed, the screen will return to "3".</p>	

## 9. Room Name Registration

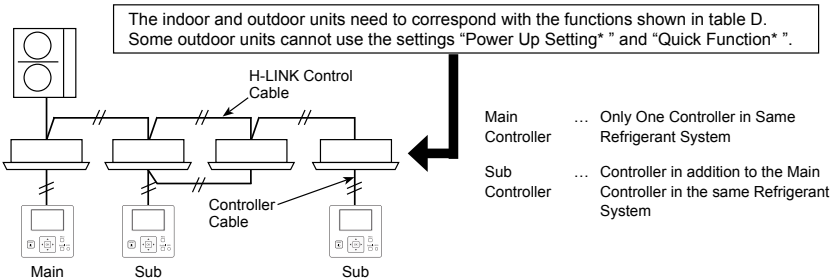
A name of the room (installation location of controller) can be registered from "Room Name Registration".

<p>1. Press "Menu" while in the normal mode. The menu will be displayed.</p>	
<p>2. Select "Room Name Registration" from the menu and press "OK".</p>	
<p>3. Press "Back/Help" to change letter type.</p>	
<p>4. Press "Δ ∇ &lt; &gt;" to select letter.</p>	
<p>5. Press "OK" to confirm the letter. (Maximum: 12 letters)</p>	
<p>6. Select "Fin." and press "OK", the confirmation screen will be displayed. (Also, press "Menu" and the confirmation screen will be displayed.)</p>	
<p>7. Select "Yes" and press "OK". The screen will return to the normal mode after the setting is confirmed. If "No" is pressed, the screen will return to "3".</p>	

## 10. Setting of Main Controller

In case of the System Constitution below, the Main or Sub Remote Control will be set automatically, after being fixed and an icon will be displayed. If opting to change over from "SUB" to "MAIN" controller, follow the steps below:

A visual example of a refrigeration environment containing a group of multiple controllers:



Concerning main and sub controllers, the range of settings may differ for the functions shown below.

• Table D: Relation between Main/Sub Controller and Setting Range

Function		Main	Sub
Power Saving Mode Setting		○	×
Outdoor Unit Capacity Control	Detailed Setting	○	×
	Power Saving Level Switch	○	×
Indoor Unit Rotation Control	Detailed Setting	○	×
	ON/OFF	○	○
Intermittent Control	Detailed Setting	○	○
	Power Saving Level Switch	○	○
Operation Noise Reduction		○	×
Power Saving Schedule	Outdoor Capacity Control	○	×
	Intermittent Control	○	○
Operation Noise Reduction Schedule		○	×
Power Up Setting*		○	×
Quick Function*		○	○

○: Available ×: Not Available

Follow the steps below to toggle from the sub controller to the main controller.

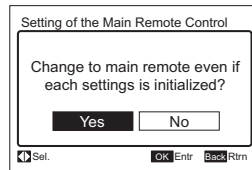
1. Press and hold "Menu" and "Back/Help" simultaneously for at least three seconds while in the normal mode (while the unit is inactive). The Test Run menu will be displayed.

2. Select "Main Remote Setting" from the Test Run menu and press "OK". The confirmation screen will be displayed.

3. Select "YES" and press "OK". The word "Processing" will be displayed during the progression phase. Select "NO", and the Test Run menu will be displayed.

After the change is applied, the Power Save Mode will read: "No Setting". Also, the "Power Saving Detailed Settings", "Power Saving", "Sav/Reduction Schedule", "Operation Noise Reduction", "Priority Setting" and "Power Up Setting" functions will be initialized.

Reset the settings.



4. The display will change to the confirmation screen.

5. Press "OK" to return to the Test Run menu.

6. Press "Back/Help" in the Test Run menu to return to the normal mode.

## NOTICE

- When using two controllers, only the primary controller can be set as the main controller. In cases where two controllers are both sub controllers, the "Main Remote Control Setting" is only accessible from the master controller.
- In cases where the primary controller is a "Main Controller" and the secondary controller is a "Sub Controller", when the primary controller and the secondary controller are changed by the function selection, Main and Sub controllers will also be switched simultaneously.
- If the sub controller is displayed, the main switch may not function normally. Please verify the cable connection.
- If a remote control group is operating with multiple refrigerant systems, the ECO function may not operate normally.

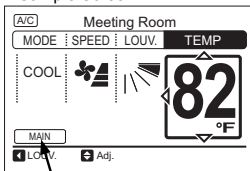
## 11. Main/Sub Non-display Setting

It is possible to hide the icon for Main or Sub for the controller.

1. The menu is displayed when pressing "Menu" in Normal Mode.
2. Select "Screen Display Setting" from the menu and press "OK".
3. Press " $\Delta$   $\nabla$ " to select "Main/Sub Display".
4. Press " $\triangleleft$   $\triangleright$ " to select "Non-display".
5. Press "OK" after the selection. The confirmation screen will be displayed.
6. Select "YES" and press "OK" to confirm the setting. The screen will return to the normal mode.  
If "NO" is pressed, the screen will return to (4).

\* Refer also to page 34 of the operation manual.

< Sample Screen >

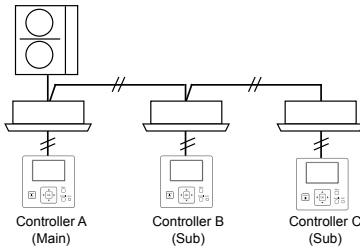


Display	Non-display
MAIN	No icon
SUB	

## 12. Operation Mode / Setting Temperature Priority Setting

It is feasible only to set the operation mode and unit temperature setpoint, from one specific controller (the main controller) in the same refrigerant system without having to use the central station. The sub controller will act in accordance with the settings of the main controller which is effective management of temperature depending on the interval of the priority operation mode and power saving settings.

< Example >



### NOTICE

1. This controller comes normally pre-set with factory supplied default settings. It is possible to set, depending on what is pre-set in the priority settings of the Test Run menu.
2. Only the temperature setting cannot be set as priority. Also, even if operation mode is set as priority, in the case of COOL/HEAT Automatic mode, the priority will be temporary overridden.
3. When using two controllers, it is not possible to set priority.
4. If one of the devices in the same refrigerant cycle is connected, the main function cannot be used.
  - Outdoor unit or Indoor unit power saving capabilities are not available.
  - Receiver Kit
  - Central Station
  - Controller set "ON" with the selected operation mode, setting adjustment of Temperature Setpoint, and setting adjustment for cooling.
  - Cooling/Heating Changeover Switch Unit
5. It is not possible to operate at the same time cooling and heating mode in the same refrigerant system. If multiple RC exist within the same refrigerant system, only one RC will give the right to set the operation mode.

Priority Setting		Remote Selection		
		Controller A (Main)	Controller B and C (Sub)	
		Operation Mode Temperature Setpoint	Operation Mode	Temperature Setpoint
Without Priority			○	○
With Priority	Operation Mode	○	▲	○
	Operation Mode + Temperature Setpoint		▲	×

○: Selection Possible

▲: Selection Possible Partially

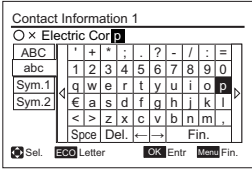
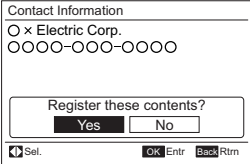
- Operation Mode + FAN set by Controller A (Main)
- Only when COOL mode COOL ↔ DRY

×: Selection not possible (Apply to setting temperature of Controller A (Main))

1. Press and hold "Menu" and "Back/Help" simultaneously for at least three seconds while in the normal mode (when unit is not operated). The Test Run menu will be displayed.
2. Select "Priority Setting" from the Test Run menu and press "OK".
3. Press "<D>" to change the settings in the following order "Not available" ↔ "Operation Mode" ↔ "Operation Mode" + Setting Temperature".
4. Select "YES" and press "OK" to confirm and display the Test Run menu. If "NO" is pressed, the screen will return to step (3).
5. Press "Back/Help" on the Test Run menu to return to the normal mode.

### 13. Contact Information Registration

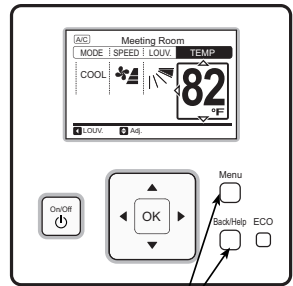
Contact information can be registered from the Contact Information screen.

1. Press and hold "Menu" and "Back/Help" simultaneously for at least three seconds during the normal mode (when unit is not in operation). The Test Run menu will be displayed.	
2. Select "Contact Information" from the Test Run menu and press "OK". Contact Information Screen One will be displayed.	
3. Press "Back/Help" to change font type.	
4. Press " $\Delta$ $\nabla$ $\triangleleft$ $\triangleright$ " to select a letter.	
5. Press "OK" to confirm the letter. (Maximum: 28 characters)	
6. Select "Fin." and press "OK" (or simply press "Menu"), (7) will be displayed.	
7. Repeat steps (3)-(5) to register the Contact Information Two screen. Select "Fin." and press "OK", the confirmation screen will be displayed. (Also, press "Menu" and the confirmation screen will be displayed.)	
8. Select "Yes" and press "OK". The Test Run menu will be displayed after the setting is confirmed. If "No" is pressed, the screen will return to (3).	

### 14. Check Menu

Each "Check Menu" item and its function is explained in the following table.

Check Menu Item	Function
Check 1	Sensor condition of the heat pump will be monitored and displayed.
Check 2	Sensor data from the heat pump prior to alarm occurrence will be displayed.
Alarm History Display *	Previous alarm record data: (date, time, alarm code) will be displayed.
Model Display	Model name and manufacturing number will be indicated.
Check PCB of the Units	The result of PCB check will be displayed.
Self Checking	A checkout of the controller will then begin.



\*To delete Alarm History  
Press "OK" when an alarm or fault is recorded and displayed. After that, a confirmation screen will appear.  
Select "Yes" and press "OK" so that the alarm record is deleted.

Press and hold "Menu" and "Back/Help" simultaneously for three seconds during the normal mode.





