TECHNICAL & SERVICE MANUAL



STK-RCS-7TWSUA

FILE NO.

Destination: North America

WIRED REMOTE CONTROLLER

Model No.	Product Code No.
STK-RCS-7TWSUA	1 852 353 85



Important! Please Read Before Starting

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state, and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.



This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.



This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

In Case of Improper Installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

SPECIAL PRECAUTIONS

WARNING

When Wiring



ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate grounding can cause accidental injury or death.
- · Ground the unit following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.

When Transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

When Installing

In a Ceiling or Wall

Make sure the ceiling/wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.

In a Room

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

In Moist or Uneven Locations

Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

In an Area with High Winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

In a Snowy Area (for Heat Pump-type Systems)

Install the outdoor unit on a raised platform that is higher than drifting snow. Provide snow vents.

When Connecting Refrigerant Tubing

- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- · Check carefully for leaks before starting the test run.

When Servicing

- Turn the power off at the main power box (mains) before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.

.....

• Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.

Others



- Ventilate any enclosed areas when installing or testing the refrigeration system. Escaped refrigerant gas, on contact with fire or heat, can produce dangerously toxic gas.
- Confirm upon completing installation that no refrigerant gas is leaking. If escaped gas comes in contact with a stove, gas water heater, electric room heater or other heat source, it can produce dangerously toxic gas.

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1. SPECIFICATIONS

Item		Description
Signal Transmission Method		Dedicated Remote Controller Cable
Power Source		DC5V supplied from Indoor Unit
Display Panel Type		Liquid Crystal
Temperature		Set Temperature Indication (68 °F to 86 °F)
Display Itoms	Airflow Direction	Six Directions Indication
Display items	Time	AM and PM 12-Hour Indication (Minute Indication Unit: 1 minute)
	Temperature Sensor	Displayed when indoor unit sensor is in use
Functions		AUTO, HEAT, DRY and FAN Operation
Operation Section		Push Switch NOTE 2
Room Temperature Detection		Detection using the Sensor in the Remote Controller or Indoor Unit Temperature Sensor (The detection result is transmitted to the indoor unit every 5 minutes)

NOTE 1. When the indoor unit is modified from one for wireless remote controller to that for wired remote controller, some of the functions becomes unavailable. Therefore, before such modification, make sure to receive an approval of the client.

- Also, the self-diagnostics procedure is changed.
- · Unavailable Functions : Refer to "3. FUNCTIONS".
- · Self-Diagnostics Procedure : Refer to "4. SELF-DIAGNOSTICS".
- 2. The mode change or SINGLE/MULTI change-over operation is performed using the slide switch located inside the rear of the remote controller.

Refer to "APPENDIX B : INSTALLATION INSTRUCTIONS" for details.





2. APPLICABLE INDOOR UNITS

Туре	Indoor Unit Model No.
Ceiling Cassette Type XHS1271, XHS1872, XS1271, XS1872	
Wall Mounted Type	KHS0971, KHS1271, KHS1872, KHS2472
	KS0971, KS1271, KS1872, KS2472
	KMHS0772, KMHS0972, KMHS1272, KMHS1872, KMHS2472
	KMS0772, KMS0972, KMS1272, KMS1872, KMS2472

3. FUNCTIONS

When the unit is modified from one for wireless remote controller to that for wired remote controller, the following functions become unavailable.

(1) Ceiling Cassette Type

- Wireless Remote Controller
- High Power Operation

(2) Wall Mounted Type

- Wireless Remote Controller
- High Power Operation
- Quiet Operation
- ION Operation

4. SELF-DIAGNOSTICS

4-1. Self-Diagnostics Procedure

PROCEDURE

After turning on power to the air conditioner, use the remote controller and follow the steps below to execute self-diagnostics.

- Step 1: Press and hold the remote controller NIGHT SET BACK (NSB) button and 1 HR TIMER button. Then, press and hold the ACL (reset) button with a pointed object such as the tip of a pen. After 5 seconds, release ACL button first, then release NIGHT SET BACK (NSB) and 1 HR TIMER buttons, "oP-1" (test run) appears, blinking in the remote controller clock display area.
- Step 2: Next, press the 1 HR TIMER button once to change the display from "oP-1" to "oP-3" (self-diagnostics). (The display continues to blink.)
- Step 3: Finally press the ON/OFF button to engage selfdiagnostics mode.
- The self-diagnostics function utilizes the 3 indicator lamps on the main unit, in combinations of ON lamps, blinking lamps, and OFF lamps, to report the existence of sensor trouble or a protective operation. (The lamps blink or remain ON for 5 seconds, then turn OFF for 2 seconds.) Self-diagnostics is completed when the buzzer sounds 3 short beeps.
- A maximum of 3 self-diagnostics reports are displayed, for 5 seconds each, beginning with the most recent report.
 Following this display the lamps turn OFF. In order to view the self-diagnostics results again, press the ON/OFF button again.
- The 3 lamps remain OFF if no trouble has occurred.
- <IMPORTANT> After self-diagnostics is completed, be sure to press the ACL (reset) button to return to normal mode. The air conditioner will not operate if this is not done.



ACL (Reset) button

4-2. Self-Diagnostics Table (Ceiling Cassette Type)



• Since the indications cover various units, the corresponding parts listed below may not be present in some models.

Indication on indoor unit		X ···· OFF - 🔆 ···· Blinking - 🏷 ···· ON (Illuminated)			
	Timer	HIGH POWER	Code	Diagnostics items	Diagnostics contents
$\mathbf{\Phi}$	\times	\times	S01	Room temperature sensor failure	(1) Sensor open circuit or short circuit
\times		\times	S02	Indoor heat exchanger sensor failure	 (2) Contact failure at connector or open circuit at terminal crimping location (3) Indoor/outdoor PCboard failure
\times	\times	•	S04	Compressor temperature sensor failure	(1) Sensor open circuit or short circuit
•	X	•	S05	Outdoor heat exchanger sensor failure	 (2) Contact failure at connector or open circuit at terminal crimping location (3) Outdoor PCboard failure
\times	₩.		S06	Outdoor air temperature sensor failure	
\mathbf{A}		*	S07	Outdoor electrical current detection failure	Outdoor PCboard failure
¢	\times	\times	E01	Indoor/outdoor communications failure (serial communications)	 (1) Mis-wiring (2) AC power failure (3) Blown fuse (4) Power Relay failure (5) Indoor or outdoor PCboard failure (6) Outdoor Fan Motor failure (7) Reactor failure (8) High-Pressure Switch failure (9) Overload Relay failure (10) Magnetic Coil failure * See detailed flowchart in this section.
×	¢	\times	E02	HIC circuit failure Power Tr (transistor) circuit failure	 HIC or power Tr failure Outdoor fan does not turn. Instantaneous power outage Service valve not opened. Outdoor fan blocked. Compressor failure Outdoor PCboard failure
Þ.	¢	\times	E03	Outdoor unit external ROM (OTP data) failure	(1) External ROM data failure (2) Outdoor PCboard failure
\times	\times	Ċ.	E04	Peak current cut-off	(1) Instantaneous power outage (2) HIC or power transistor failure (3) Outdoor PCboard failure
Þ.	\times	Þ.	E05	PAM circuit failure Active circuit failure	(1) Outdoor PCboard failure (2) Outdoor power supply voltage failure
\times	¢	¢	E06	Compressor discharge overheat prevention activated.	 (1) Electric expansion valve failure (2) Capillaries choked (3) Shortage of refrigerant (4) Continuous overload operation (5) Outdoor fan does not rotate (6) Outdoor PCboard failure
Þ.	¢	Þ.	E07	Indoor fan operating failure	(1) Fan motor failure (2) Contact failure at connector (3) Indoor PCboard failure
¢	æ	•	E08	-4-way valve switching failure Indoor zero-cross failure	 (1) 4-way valve failure (heat pump model only) (2) Outdoor PCboard failure
$\mathbf{\Phi}$	¢	$\mathbf{\Phi}$	E09	No-refrigerant protection	(1) Service valve not opened. (2) Shortage of refrigerant
Þ	¢	$\mathbf{\Phi}$	E10	DC compressor drive circuit failure	(1) Open phase (2) Outdoor PCboard failure
₩.		ф.	E11	Outdoor fan operating failure	(1) Fan motor failure (2) Contact failure at connector (3) Outdoor PCboard failure
¢	•	¢	E12	Outdoor system communications failure OLR operation Outdoor power supply open phase Outdoor coil freezing	 (1) Mis-wiring (2) Blown fuse (3) Power Relay failure (4) Outdoor PCboard failure (5) Compressor failure * See detailed flowchart in this section.
$\mathbf{\Phi}$	Ċ.	ф.	E13	Freeze-prevention operation activated.	(1) Indoor fan system failure (2) Shortage of refrigerant (3) Low-temperature operation
	TIMER LAMP D BLINKING (3 SEC. INTERVAL)		FLOAT SWICTH (FS) IS ACTIVED.	(1) DRAIN PUMP FAILURE (2) FS FAILURE (3) CHOKED DRAIN HOSE	

4-3. Self-Diagnostics Table (Wall Mounted Type)



• Since the indications cover various units, the corresponding parts listed below may not be present in some models.

Indication on indoor unit		X ···· OFF - ᠿ ···· Blinking - ⊖ ···· ON (Illuminated)			
Quiet (3)	Timer (2)	Operation (1)	Code	Diagnostics items	Diagnostics contents
\times	\times	A	S01	Room temperature sensor failure	(1) Sensor open circuit or short circuit
\times	$\mathbf{\Phi}$	\times	S02	Indoor heat exchanger sensor failure	(2) Contact failure at connector or open circuit at terminal crimping location (short-circuit detection only for the humidity sensor)
\times	₩.	- 🏵	S03	Humidity sensor failure	
	\times	\times	S04	Compressor temperature sensor failure	(1) Sensor open circuit or short circuit
	\times	₩.	S05	Outdoor heat exchanger sensor failure	(2) Contact tailure at connector or open circuit at terminal crimping location (3) Outdoor PCboard failure
		\times	S06	Outdoor air temperature sensor failure	
-¢		₩.	S07	Outdoor electrical current detection failure	Outdoor PCboard failure
×	×	¢	E01	Indoor/outdoor communications failure (serial communications)	 Mis-wiring (2) AC power failure (3) Blown fuse (4) Power Relay failure Indoor or outdoor PCboard failure (6) Outdoor Fan Motor failure (7) Reactor failure High-Pressure Switch failure (9) Overload Relay failure (10) Magnetic Coil failure * See detailed flowchart in this section.
\times	¢	×	E02	HIC circuit failure Power Tr (transistor) circuit failure	 HIC or power Tr failure Outdoor fan does not turn. Instantaneous power outage Service valve not opened. Outdoor fan blocked. Compressor failure Outdoor PCboard failure
\times	¢	¢	E03	Outdoor unit external ROM (OTP data) failure	(1) External ROM data failure (2) Outdoor PCboard failure
¢	\times	\times	E04	Peak current cut-off	 Instantaneous power outage (2) HIC or power transistor failure Outdoor PCboard failure
¢	\times	¢	E05	PAM circuit failure Active circuit failure	(1) Outdoor PCboard failure (2) Outdoor power supply voltage failure
¢	Þ	\times	E06	Compressor discharge overheat prevention activated.	 (1) Electric expansion valve failure (2) Capillaries choked (3) Shortage of refrigerant (4) Continuous overload operation (5) Outdoor fan does not rotate (6) Outdoor PCboard failure
Þ.	Þ.	¢	E07	Indoor fan operating failure	(1) Fan motor failure (2) Contact failure at connector (3) Indoor PCboard failure
*	\	¢	E08	•4-way valve switching failure •Indoor zero-cross failure	(1) 4-way valve failure (heat pump model only)(2) Outdoor PCboard failure
	Þ	\⊅	E09	No-refrigerant protection	(1) Service valve not opened. (2) Shortage of refrigerant
-\$	Þ	¢	E10	DC compressor drive circuit failure	(1) Open phase (2) Outdoor PCboard failure
¢	-\$		E11	Outdoor fan operating failure	(1) Fan motor failure (2) Contact failure at connector (3) Outdoor PCboard failure
¢		¢	E12	Outdoor system communications failure OLR operation Outdoor power supply open phase Outdoor coil freezing	 (1) Mis-wiring (2) Blown fuse (3) Power Relay failure (4) Outdoor PCboard failure (5) Compressor failure * See detailed flowchart in this section.
ф.	ф		E13	Freeze-prevention operation activated.	(1) Indoor fan system failure (2) Shortage of refrigerant (3) Low-temperature operation

APPENDIX A INSTRUCTION MANUAL

STK-RCS-7TWSUA

(OI-852-6-4181-139-00-0)

STK-RCS-7TWSUA



INSTRUCTION MANUAL

Wired Remote Controller

This wired remote controller is designed for both the "COOL/DRY/HEAT Model" and "COOL/DRY Model" indoor unit. Before using the remote controller, be sure to confirm the "model type" specified on the front cover of the INSTRUCTION MANUAL supplied with the indoor unit.

Once the wired remote controller is connected, the wireless remote controller cannot be used.

MODE D'EMPLOI Télécommande Filaire

F

EG

Save These Instructions! Conserver ce mode d'emploi



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PRODUCT INFORMATION

If you have problems or questions concerning your wired remote controller, you will need the following information.

Model No.

Date of purchase ___

Dealer's address

Phone number

ALERT SYMBOLS

The following symbols used in this manual, alert you to potentially dangerous conditions to users, service personnel or the appliance:



This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.



This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.

INSTALLATION LOCATION

We recommend that this wired remote controller be installed properly by qualified installation technicians in accordance with the Installation Instructions provided with the unit.



Do not install this wired remote controller where there are fumes or flammable gases, or in an extremely humid space such as a greenhouse. Do not install the wired remote controller where excessively high heat-generating objects are placed.

Avoid:

To protect the air conditioner from heavy corrosion, avoid installing the outdoor unit where salty sea water can splash directly onto it or in sulphurous air near a spa.

ELECTRICAL REQUIREMENTS

- 1. All wiring must conform to the local electrical codes. Consult your dealer or a qualified electrician for details.
- **2.** Each unit must be properly grounded with a ground (or earth) wire or through the supply wiring.
- 3. Wiring must be done by a qualified electrician.

SAFETY INSTRUCTIONS

- Read this Instruction Manual carefully before using this air conditioner. If you still have any difficulties or problems, consult your dealer for help.
- This air conditioner is designed to give you comfortable room conditions. Use this only for its intended purpose as described in this Instruction Manual.



 Never use or store gasoline or other flammable vapor or liquid near the air conditioner — it is very dangerous.

Dane

This air conditioner has no ventilator for intaking fresh air from outdoors. You must open doors or windows frequently when you use gas or oil heating appliances in the same room, which consume a lot of oxygen from the air. Otherwise there is a risk of suffocation in an extreme case.



- Do not turn the air conditioner on and off from the power mains switch. Use the ON/OFF operation button.
- Do not stick anything into the air outlet of the outdoor unit. This is dangerous because the fan is rotating at high speed.
- Do not let children play with the air conditioner.
- Do not cool or heat the room too much if babies or invalids are present.

FEATURES

- Microprocessor Controlled Operation
- 24-Hour ON or OFF Timer
- 1-Hour OFF Timer
- Night Setback
- Automatic and 3-step Fan Speed
- Air Sweep Control

Automatic Restart Function for Power Failure

- Automatic Switching between Cooling and Heating (This function is available only for "Single use" of COOL/DRY/ HEAT Model.)
- Hot Start Heating System (This function is available only for COOL/DRY/HEAT Model.)

- NOTE
- Since the wired remote controller is designed to be commonly used for various air conditioners, some of the functions of the wireless remote controller supplied with the indoor unit cannot be used.
- "Single use" means that only one indoor unit is connected with one outdoor unit in a one-unit-to-one-unit configuration.
- "Multiple use" (i.e. Flexi-Multi system) means that two or more indoor units are connected with one outdoor unit in a multiple-unit-to-one-unit configuration.

REMOTE CONTROL UNIT (DISPLAY)



Symbols



REMOTE CONTROL UNIT

NOTE

The descriptions on the AUTO (♠) or HEAT (☀) operation mode are only for the "COOL/DRY/HEAT Model," and not for the "COOL/DRY Model."

Display

Information on the operating conditions is displayed while the remote control unit is switched on. If the unit is turned off, only the mode that was set previously is still displayed.

Temperature setting buttons (TEMP.)

Press the button to increase the set temperature. Press the button to reduce the set temperature. The temperature setting changes by 2 °F each time one of the TEMP. buttons is pressed.

FAN SPEED selector button -

A : The air conditioner automatically decides the fan speeds.

- S) : High fan speed
- S: Medium fan speed
- Section 2.1 Sectio

NIGHT SETBACK button

For details, see "5. Night Setback Mode". When you press this button in the HEAT, DRY or COOL mode, the remote control unit will automatically adjust the set temperature to save energy.

FLAP button

Press this button either to select the setting of the airflow direction to one of the six possible positions manually or to select the sweep function which moves the flap up and down automatically.

- The airflow direction can be set manually. (six positions)
- The flap moves up and down automatically.

NOTE

When you press the FLAP button, the air flow direction will be changed one by one as follows.



Timer and Present Time setting buttons

First, press the SET button to select the mode (ON, OFF and Present Time settings) you want.

Each time you press the "HH" button, the hours advance by one. (PM0, PM1.....PM11, AM0, AM1.....AM11)

Each time you press the "MM" button, the minutes advance by one when setting Present Time and by ten when setting ON and OFF Time.

SET button

For details, see "Setting the Timer".

Press this button to select the mode you want to program.



ACL button (ALL CLEAR)

When you press the ACL button while the operation button is ON, all settings are cleared. Press the ACL button if the air conditioner is not operating correctly.

ON/OFF operation button This button is for turning the air conditioner on and off.
MODE selector button Use this button to select AUTO, HEAT, DBY, COOL or FAN mode
(AUTO)
(HEAT) 🛛 🌞 : The air conditioner makes the room warmer.
(DRY) \land : The air conditioner reduces the humidity in the room.
(COOL) 🔹 : The air conditioner makes the room cooler.
(FAN) : The air conditioner works only as a circulation fan except for "Multiple use" of COOL/DRY/ HEAT Model.
—— 1 HR. TIMER button (1-HOUR OFF TIMER)
(HRO) : When you press this button, regardless of whether the unit is operating or stopping, the unit operates for one hour and then shuts down.
TIMER SELECT button
No display : The timer does not operate.
Image: Organized and the set time.
$\textcircled{@} \bigcirc$: The air conditioner stops at the set time.
Or a conditioner stops and starts, or starts and stops, at the set times every day.
 Sensor
A temperature sensor inside the remote control unit senses the room temperature.
 —— SENSOR button When you press this button (use a small-tipped object such as a ballpoint pen), the 🖨 mark will disappear at the
display. And the room temperature is detected by the sensor which is built into the remote control unit and the air conditioner is controlled accordingly.

NOTE

If the remote control unit is located near a heat source, such as a space heater or in direct sunlight, press the SENSOR button to switch to the sensor on the indoor unit.

NOTE

The indoor fan runs continuously when the system is in normal operation. It does not turn off when the desired room temperature is reached. If Night Set Back mode is selected, the fan will turn off intermittently during cooling operation in order to control air flow.

OPERATION WITH THE REMOTE CONTROL UNIT

1. Automatic Operation (only for COOL/DRY/HEAT Model)

Single use

This unit automatically switches between cooling operation and heating operation according to the difference between the room temperature and the temperature setting.

Multiple use

The air conditioner calculates the difference between the thermostat setting and room temperature, and automatically determines the mode to operate under cooling or heating. Then, the air conditioner continuously operates under the mode selected at initial operation.





Check that the circuit breaker on the power panel is turned on.

Once (a) mode is selected and the unit is preset by following the steps below, you can have the air conditioner automatically bring the room to the desired temperature simply by pressing the ON/OFF operation button.

STEP 1	Press the MODE selector button to (A).
STEP 2	Press the ON/OFF operation button.

To stop the air conditioner, press the ON/OFF operation button again.



To change the temperature setting; press the temperature setting buttons and change the setting to the desired temperature.

2. Manual Operation



NOTE Check that the circuit breaker on the power panel is turned on.

If the automatic operation settings of the unit do not meet your needs, press the setting buttons as described below and change the settings as desired.

STEP 1	Press the MODE selector button and select the desired mode.For heating operation \rightarrow \bigotimes For dehumidifying operation \rightarrow \Diamond For cooling operation \rightarrow \bigotimes For fan only operation \rightarrow \bigotimes (No Fan mode in "Multiple use" of COOL/DRY/HEAT Model)		
STEP 2	To start the air conditioner, press the ON/ OFF operation button.		
STEP 3	Press the TEMP. setting buttons to change the temperature setting to the desired temperature. Adjustable temperature range: 86 °F max. 60 °F min.		
STEP 4	Set the FAN SPEED selector button to the setting you want.		
STEP 5	Press the FLAP button and set the airflow direction as desired. (Refer to "ADJUSTING THE AIRFLOW DIRECTION" on page 9.)		
To stop the	To stop the air conditioner press the ON/OFF		

To stop the air conditioner, press the ON/OFF operation button again.

- **NOTE** Choose the best position in the room for the remote control unit, which also acts as the sensor for room comfort and transmits the operating instructions. Once you've found this best position, always keep the remote control unit there.
 - This appliance has a built-in 5-minute time delay circuit to ensure reliable operation. When the operation button is pressed, the compressor will start running within three minutes. In the event of power failure, the unit will stop.
 - The display on the remote control unit shows the setting temperature and not the room temperature.
 - When multiple indoor units are used and units in other rooms are already operating, they will be operating with the same mode as the operating indoor units. (only for "Multiple use" of COOL/DRY/HEAT Model)

3. Adjusting the Fan Speed

A. Automatic fan speed

Simply set the FAN SPEED selector button to the **S** solution.

This automatically sets the best fan speed for the room temperature.

B. Manual fan speed

If you want to adjust fan speed manually during operation, just set the FAN SPEED selector button as desired. [\$\$}, \$\$, or \$\$]

4. Fan Only



If you want to circulate air without any temperature control, follow these steps:

STEP 1	Press the MODE selector button to switch to the fan mode \$.
STEP 2	Press the ON/OFF operation button.
STEP 3	Press the FAN SPEED selector button to select the fan speed of your choice (),), so or s).

NOTE There is no FAN only function in "Multiple use" of COOL/DRY/HEAT Model.

5. Night Setback Mode



Night Setback Mode is used for saving energy.

Press the NIGHT SETBACK button while operation. The $\overline{\mbox{\sc mark}}$ mark appears in the display.

To release the night setback function, press the NIGHT SETBACK button again.

A. In Cooling and DRY Mode: ($\$ and $\$)

When the night setback mode is selected, the air conditioner automatically raises the temperature setting 2 °F when 30 minutes have passed after the selection was made, and then another 2 °F after another 30 minutes have passed, regardless of the indoor temperature when night setback was selected. This enables you to save energy without sacrificing comfort. This function is convenient when gentle cooling is needed.



B. In Heating Mode: (‰) (only for COOL/DRY/HEAT Model)

When the night setback mode is selected, the air conditioner automatically lowers the temperature setting 4 °F when 30 minutes have passed after the selection was made, and then another 4 °F after another 30 minutes have passed, regardless of the indoor temperature when night setback was selected. This enables you to save energy without sacrificing comfort. This function is convenient when gentle heating is needed.



SPECIAL REMARKS

Power failure during operation

In the event of power failure, the unit will stop. When the power is resumed within 8 hours, the unit will restart automatically in approximately five minutes, or 15 minutes in "Multiple use" of COOL/ DRY/HEAT Model on AUTO mode by the remote control unit.

Remote Control Unit

The remote control unit sends the setting condition to the air conditioner regularly at five minute intervals.

Remote Control Unit Display

If the display malfunctions, press the ACL button. This resets the remote control unit back to the initial settings. Make the settings again.

SETTING THE TIMER



1. How to set the present time

(Example) To set to 9:10 pm.



Operation	Indication
1. Press the SET button three times.	The time indication alone flashes.
 Press the HH button until PM 9 is displayed. Press the MM button until 10 is displayed. 	The display will flash for 10 sec. and automatically stop flashing except for the " : " symbol.

2. How to set the OFF time

(Example) To stop the air conditioner at 11:30 pm.



OFF TIME

```
Present time
```

Operation	Indication
1. Press the SET button twice.	The timer (2)) indication alone flashes and the previous set- time is only displayed.
 Press the HH button until PM 11 is displayed. Press the MM button until 30 is displayed. 	The display will change automatically back to show the present time after about 10 sec.
3. Press the TIMER SELECT button twice to set OFF time.	The present time and \bigcirc are displayed.

To cancel the setting, press the TIMER SELECT button twice.

3. How to set the ON time

(Example) To start operation at 7:10 am.



ON TIME

Present time

Operation	Indication
1. Press the SET button once.	The timer (2) indication alone flashes and the previous set- time is only displayed.
 Press the HH button until AM 7 is displayed. Press the MM button until 10 is displayed. 	The display will change automatically back to show the present time after about 10 sec.
3. Press the TIMER SELECT button once to set ON time.	The present time and @▸) are displayed.

To cancel the setting, press the TIMER SELECT button three times.

4. How to set daily ON/OFF repeat timer





To cancel the setting, press the TIMER SELECT button once.

NOTE

You can check the timer ON/OFF times after you have set them by pressing the SET button.

5. Backup function

Even if the main power supply to the unit is turned off, the remote controller will store the previous settings in its internal memory for up to 8 hours. If the power is not turned back on within 8 hours, the previous settings will be lost. In this case, the mode settings must be reset by the user.

USING THE 1-HOUR OFF

1. 1-Hour OFF Timer



This function causes the unit to operate for one hour and then stop, regardless of whether the unit is on or off when this button is pressed.

The **(HRO)** indicator in the display indicates that this function is operating.

Setting procedure:

Regardless of whether the unit is operating or stopped, press the 1 HR. TIMER button.

1HR. appears in the display.

Cancellation procedure:

Press the ON/OFF operation button to turn the unit off, wait for the unit to stop operating, and then press the ON/OFF operation button again.

The 1-Hour Timer function is now cancelled and the unit operates normally.

NOTE

- If, while the 1-Hour Timer function is operating, the 1HR. TIMER button is pressed once to cancel the function and then again, the unit continues to operate for one hour from that point in time and then stops.
- It is not possible to use the OFF Timer and 1-Hour OFF Timer together. Whichever function is set last takes precedence. If the 1 HR. TIMER button is pressed while the TIMER OFF function operates, the OFF Timer is cancelled and the unit will stop operating one hour later.

2. Operation together with the daily ON/OFF repeat timer

The 1-Hour OFF Timer setting is given priority over the DAILY ON/ OFF REPEAT setting.

ADJUSTING THE AIRFLOW DIRECTION

The vertical airflow can be adjusted by moving the flap with the remote control unit. Do not move the flap with your hands. Confirm that the remote control unit has been turned on. Use the FLAP button to set either the sweep function or one of the six airflow direction settings.



A. Sweep function



The flap starts moving up and down to deliver air over the sweep range.

B. Setting the airflow manually



Referring to the above illustration, use the FLAP button to set the airflow direction within the range used during the heating, cooling, or dehumidifying operation.



NOTE

- The flap automatically closes when the unit is off.
- During the heating operation, the fan speed will be very low and the flap will be in the horizontal position (position (6)) until the air being blown out of the unit begins to warm. Once the air warms up, the flap position and fan speed change to the settings specified with the remote control unit.



- Use the FLAP button on the remote control unit to adjust the position of the flap. If you move the flap by hand, the flap position according to the remote control unit and the actual flap position may no longer match. If this should happen, shut off the unit, wait for the flap to close, and then turn on the unit again; the flap position will now be normal again.
- Do not have the flap pointed down during cooling operation. Condensation may begin to form around the air vent and drip down.

APPENDIX B INSTALLATION INSTRUCTIONS (STK-RCS-7TWSUA)

STK-RCS-7TWSUA

(II-852-6-4190-481-00-1)

SANYO INSTALLATION INSTRUCTIONS

IMPORTANT

In order to install this wired remote controller onto a wall-mounted model, the connection kit (STK-KCW1), which must be purchased separately, is required.

· Once the wired remote controller is connected, the wireless remote controller cannot be used.

Parts supplied with the remote controller

See Table 1.

Remote controller installation guidelines

Installation location

- Mount the remote controller 3.3 to 4.9 ft. (1 to 1.5 meters) off the floor where it can sense the average temperature of the room.
- Do not mount the remote controller in a place exposed to direct sunlight or where it is exposed to outside air such as near a window.
- Do not mount the remote controller behind a curtain or other object so that it is separated from the air circulation of the room.
- Mount the remote controller inside the room being air conditioned.

Table 1					
Parts	Figure	Q'ty	Parts	Figure	Q'ty
Wired remote controller	Doboo Doboo	1	Wire harness	26.2 ft. (8m)	1
Machine screws	5/32×15/16" (4×25mm) Omenania Omenania	2	Instruction manual		1
Tapping screws	5/32×15/16" (4×25mm) O	2	Installation Instructions		1
Spacers	9) 9)	2			

Switching the room temperature sensor

Room temperature sensors are separately incorporated in both the indoor unit and the remote controller. Either sensor can be used to sense the room temperature. The indoor unit sensor is usually used.

If you wish the remote controller to sense the room temperature, press the SENSOR button with a ballpoint pen or tool with a small tip. (Refer to Fig. 9 on page 4 to locate the SENSOR button.)

How to install the remote controller

IMPORTANT

- The remote controller is set to "Cool/Dry/Heat model" at the time of shipment from the factory. If the purchased air conditioner is a COOL/DRY model, follow the instructions on the label and change the switch on the reverse side of the remote controller unit to "Cool/Dry model". (Fig. 1)
- The remote controller is also set to "Single" at the time of shipment from the factory. For multiple use, set the switch on the reverse side of the remote controller unit to "Multi". (Fig. 1)
- After all work is completed, if any switches have been changed, then be sure to press the ACL (Reset) button. (Refer to Fig. 9 on page 4 to locate the ACL (Reset) button.)



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A. Installing with in-wall junction box

- (1) Install the junction box (locally purchased) into the wall. (Figs. 2-a and 3)
- (2) Pass the wire harness through the junction box and conduit. (Fig. 3)
- (3) Insert a flathead screwdriver into the 5 tab locations and disconnect the back plate of the remote controller by lifting up slightly. (Fig. 2-b)
 - The tabs are thin; take care not to chip them.
- (4) Pass the wire harness connector through the cord opening on the back plate of the remote controller.

Use nippers or a similar tool to cut out the slots for the remote controller back plate screws. Insert the spacers and use the machine screws to install the remote controller back plate. (Fig. 3)

- (5) Insert the connector into the PCB of the remote controller unit, and wrap the wire harness around the hook. (Fig. 4)
- (6) Store the excess wire harness inside the junction box, then hook the remote controller unit onto the top of the back plate and install the remote controller unit.
- (7) To remove the remote controller unit after it has been installed, insert a flathead screwdriver into the slot on the bottom of the case and turn it. (Fig. 5)

B. Installing directly onto the wall

 Insert a flathead screwdriver into the 5 tab locations and disconnect the back plate of the remote controller by lifting up slightly. (Fig. 2-b)

The tabs are thin; take care not to chip them.

- (2) Use tapping screws to directly fasten the remote controller back plate onto the wall. (Fig. 6)
- (3) Insert the connector into the PCB of the remote controller unit, and wrap the wire harness around the hook. (Fig. 4)
- (4) Use nippers or a similar tool to cut out the slot on the top of the remote controller unit. Pass the wire harness through the slot, then hook the remote controller unit onto the top of the back plate and install the remote controller unit.
- (5) In order to conceal the exposed wiring, use a wire cover (locally purchased) or similar means.

NOTE

- When installing the remote controller back plate, be sure that it is flat and straight. Do not over-tighten the installation screws.
- Install the remote controller away from all sources of electrical noise.
- Install a noise filter or take other appropriate action if electrical noise affects the power supply circuit of the unit.

In-wall junction box (locally purchased)













How to wire the remote controller

- Turn OFF the power and remove the ceiling panel air-intake grille. (Refer to 3-6-1 Before Installing the Ceiling Panel in the Installation Instructions supplied with the indoor unit.)
- (2) Remove the 3 power box cover screws and 2 control box cover screws, then remove both covers. At this time, take care not to drop the covers. (Fig. 7)
- (3) Disconnect the 7P (IND) terminal and 4P (RC) terminal of the 7P IND and 4P RC wiring connectors and the 5P terminal of the 5P FLAP wiring connector from the control box PCB connectors (IND, RC, FLAP). Disconnect each wiring connector from the clamp that fastens it. (Fig. 7)
- (4) Remove the ceiling panel. (To remove the ceiling panel, follow the steps for 3-6 How to Install the Ceiling Panel in the reverse order. Refer to the Installation Instructions supplied with the indoor unit.)





Fig. 8-a





Fig. 8-b

- (5) Remove the terminal cover screws, then remove the cover. At this time, take care not to drop the cover. (Fig. 8)
- (6) Pull in the wire harness from the remote controller as shown in Fig. 8-b.Remove the putty before wiring. After wiring, make sure to restore the putty.
- (7) Insert the wire harness 4P terminal into the control box PCB connector (RC). (Fig. 8-a)
- (8) Install the terminal cover. Then install the ceiling panel. (Refer to **3-6 How to Install the Ceiling Panel** in the Installation Instructions supplied with the indoor unit.)
- (9) Insert only the 7P (IND) terminal of the 7P IND and 4P RC wiring connector into the connector (IND) on the control box PCB. Store the 4P terminal inside the control box. (Fig. 8-a)
- (10) Next, insert the 5P terminal of the 5P FLAP wiring connector into the connector (FLAP) on the control box PCB.
 (Fig. 8-a)
- (11) When the connections are completed, fasten the wire harness and each wiring connector with the clamps.
- (12) Install the power box cover and control box cover.
- (13) Install the air-intake grille. (Refer to **3-6 How to Install the Ceiling Panel** in the Installation Instructions supplied with the indoor unit.)

How to Test Run the Air Conditioner

After turning on the power of the air conditioner, use the remote controller and follow the steps below to conduct the test run.

- (1) Set the remote controller in Test Run mode. (Fig. 9)
 - a) Press and hold the NIGHT SETBACK button and the 1HR. TIMER button.
 - b) Then press and hold the ACL (Reset) button with a pointed object such as the tip of a pen. After 5 seconds, release the ACL button first.
 - c) Then release the NIGHT SETBACK and 1HR. TIMER buttons.
 - d)
 appears and "oP-1" blinking in the remote controller clock display area. (Fig. 10)
- (2) Start Cooling mode test run by pressing the ON/OFF operation button of the remote controller. (Fig. 9)
 - This starts the fan producing uncooled forced air with the 3 indicator lamps (OPERATION lamp, TIMER lamp, and HIGH POWER lamp) on the main unit blinking. (Fig. 11)
 - After 3 minutes, the system shifts into cooling operation, and cool air will start to be felt. Cooling mode test run is unaffected by the room temperature.
- (3) Press the ON/OFF operation button of the remote controller again to stop the test run. (Fig. 9)
- (4) Finally press the ACL (Reset) button of the remote controller to release it from Test Run mode to return to normal mode. (Fig. 9)
 - "* and "oP-1" will disappear from the remote controller clock display area.

NOTE

Troubleshooting:

In the event that the green OPERATION lamp is blinking upon powering up the system, an error condition exists. In this case, refer to the self-diagnostics procedure which can be seen by opening the air-intake grille.

IMPORTANT

After the test run is completed, be sure to press the ACL (Reset) button to return to normal mode. The air conditioner will not operate correctly if this is not done.



Fig. 9



Fig. 10



Fig. 11

APPENDIX C INSTALLATION INSTRUCTIONS (Installing the Connection Kit) for Wall-Mounted Models

STK-KCW1

(II-852-6-4190-491-00-0)

SANYO INSTALLATION INSTRUCTIONS

Parts included in the package

See Table 1.

Table 1



Installing the connection kit

A. 7000 BTU, 9000 BTU, and 12000 BTU inverter models

- (1) Remove the air intake grille.
- (2) Remove the terminal cover. Pull out the thermistor, then remove the grille.
 - For details on steps (1) and (2), refer to the Installation Instructions included in the outdoor unit package.
- (3) Disengage the top cover from the tabs on the sides of the component box, then pull the cover toward you to remove it. (Fig. 1)

(To disengage the tabs, pull the sides of the top cover sideways and outward from the component box.)

- (4) Remove the 4 component box installation screws. (Fig. 1)
- (5) Disconnect the indicator-side connector (10P) of the wires that connect the indicator and component box (Fig. 2a). Then disconnect the connector on the component box side (10P) and remove the wires. (Lifting the P.C. board up slightly will make this work easier.) (Fig. 2b)
- (6) After removing the wires, insert Connector 1 of the wires (Fig. 3a) that were included in the kit package into the indicator (Fig. 2a), then insert Connector 2 into the component box. (Fig. 2b)

At this time, pass the wires through so that they are held inside the 2 holders on the sides of the component box. (Fig. 3b)









Fig. 1







Fig. 3b

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- (7) Feed the wire harness that was included in the wired remote controller package into the right lower rear of the unit and route it to the component box. (Fig. 4a)
 - When feeding the wire harness through the opening, be careful of the motor cable and be sure to feed the wire harness and motor cable together through the opening. (Fig. 4b)
 - · Be careful not to damage the wire harness when installing the conduit during unit installation work.







Connector 3 (4P)

Connector (4P)

Wire harness



(9) Take the wires (Fig. 3a) and use a wire clamp to bind together the wire for the noise filter and the wire for the thermistor (Fig. 5a). Then position them so that the noise filter is contained within the space of the component box. (Fig. 5b)

Noise filter



Connector 3 (4P)



- (10) Pass the wire tube through the clamping strap, and temporarily fasten in place with the screw. Next, use a clamp and bind the wires together immediately above the clamping strap, and fasten in place with the screw in order to prevent pulling on the wire harness. (Fig. 6a) • Install the wire tube so that the wires cannot be damaged by the edge of the metal plate. (Fig. 6a)
 - When re-installing the grille, confirm that there is no slack in the wire harness wires.
- (11) Tighten the 4 screws to install the component box, taking care not to pinch any of the wires, then install the top cover. (Fig. 6b)
- (12) Route the wire harness out through the small cut-out located at the bottom right side of the



Fig. 7a



indoor unit frame. (Fig. 7a)

- (13) Apply the label that was included in the package at a location close to the self-diagnostic label applied to the air intake grille. (Fig. 7b)
- (14) Refer to the Installation Instructions that were included in the outdoor unit package and re-install the grille, thermistor, terminal cover, and air intake grille.



<Completion drawing >

Fig. 6b

B. 18000 BTU and 24000 BTU inverter models

- (1) Remove the air intake grille.
- (2) Remove the terminal cover. Pull out the thermistor, then remove the grille.For details on steps (1) and (2), refer to the Installation Instructions included in the outdoor unit package.
- (3) Disengage the top cover from the tabs on the sides of the component box, then pull the cover toward you to remove it. (Fig. 1)
 (To disengage the tabs, pull the sides of the top cover sideways and outward from the component box.)
- (4) Disconnect the indicator-side connector (10P) of the wires that connect the indicator and component box (Fig. 2a). Then disconnect the connector on the component box side (10P) and remove the wires. (Lifting the P.C. board up slightly will make this work easier.) (Fig. 2b)
- (5) After removing the wires, insert Connector 1 of the wires (Fig. 3a) that were included in the kit package into the indicator (Fig. 2a), then insert Connector 2 into the component box. (Fig. 2b)

At this time, pass the wires through so that they are held inside the 2 holders on the sides of the component box. (Fig. 3b)

- (6) Feed the wire harness that was included in the wired remote controller package into the right lower rear of the unit. (Fig. 4a)
 - Be careful not to damage the wire harness when installing the conduit during unit installation work.
- (7) Pass the wire harness through the wire tube that was included in the kit package. Then connect Connector 3 (Fig. 3a) to the wire harness connector (4P). (Fig. 4c)
- (8) Take the wires (Fig. 3a) and use a wire clamp to bind together the wire for the noise filter and the wire for the thermistor (Fig. 5a). Then position them so that the noise filter is contained within the space of the component box. (Fig. 5b)
- (9) Pass the wire tube through the clamping strap, and temporarily fasten in place with the screw. Next, use a clamp and bind the wires together immediately above the clamping strap, and fasten in place with the screw in order to prevent pulling on the wire harness. (Fig. 6a)
 - Install the wire tube so that the wires cannot be damaged by the edge of the metal plate. (Fig. 6a)
 - When re-installing the grille, confirm that there is no slack in the wire harness wires.
- (10) Install the top cover on the component box. (Fig. 8)
- (11) Route the wire harness out through the small cut-out located at the bottom right side of the indoor unit frame. (Fig. 7a)
- (12) Apply the label that was included in the package at a location close to the selfdiagnostic label applied to the air intake grille. (Fig. 7b)
- (13) Refer to the Installation Instructions that were included in the outdoor unit package and re-install the grille, thermistor, terminal cover, and air intake grille.



< Completion drawing > Fig. 8

How to Test Run the Air Conditioner

After turning on the power of the air conditioner, use the remote controller and follow the steps below to conduct the test run.

- (1) Set the remote controller in Test Run mode. (Fig. 9)
 - a) Press and hold the NIGHT SETBACK button and the 1HR. TIMER button.
 - b) Then press and hold the ACL (Reset) button with a pointed object such as the tip of a pen. After 5 seconds, release the ACL button first.
 - c) Then release the NIGHT SETBACK and 1HR. TIMER buttons.
- (2) Start Cooling mode test run by pressing the ON/OFF operation button of the remote controller. (Fig. 9)
 - This starts the fan producing uncooled forced air with the 4 indicator lamps (OPERATION lamp, TIMER lamp, QUIET lamp, and ION lamp) on the main unit blinking. (Fig. 11)
 - After 3 minutes, the system shifts into cooling operation, and cool air will start to be felt. Cooling mode test run is unaffected by the room temperature.
- (3) Press the ON/OFF operation button of the remote controller again to stop the test run. (Fig. 9)
- (4) Finally press the ACL (Reset) button of the remote controller to release it from Test Run mode to return to normal mode. (Fig. 9)

NOTE

Troubleshooting:

In the event that the green OPERATION lamp is blinking upon powering up the system, an error condition exists. In this case, refer to the self-diagnostics procedure on the inside of the air-intake grille.

IMPORTANT

After the test run is completed, be sure to press the ACL (Reset) button to return to normal mode. The air conditioner will not operate correctly if this is not done.



Fig. 9



Fig. 10



Fig. 11

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