

OX OWNER'S MANUAL

- Thank you for purchasing this ecox product.
- Before using this machine, please read this manual and retain it for future reference.

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FOUR-WAY CASSETTE TYPE

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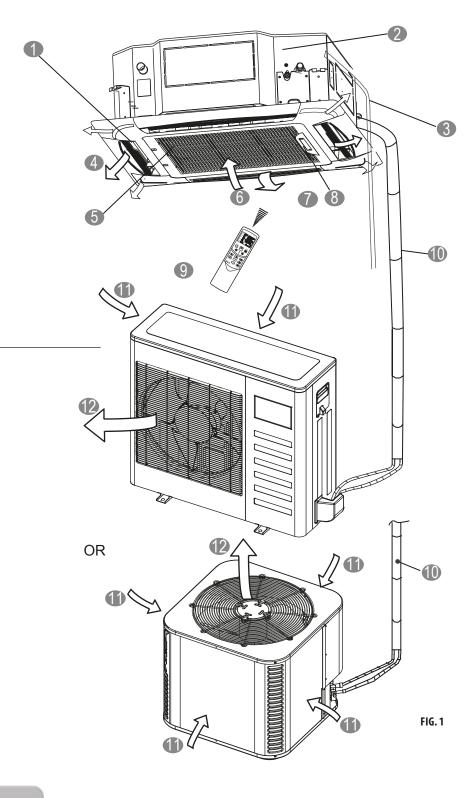


INDOOR UNIT

- Air flow louver (at air outlet)
- 2 Drain pump(drain water from indoor unit)
- 3 Drain pipe
- 4 Air outlet
- **5** Air filter(inside air-in grill)
- 6 Air inlet
- Air-in grill
- 8 Display panel
- 9 Remote control

OUTDOOR UNIT

- Refrigerant pipe
- Air inlet
- Air outlet





NOTE

All the pictures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased(depend on model). The actual shape shall prevail.

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IMPORTANT SAFETY INFORMATION

To prevent injury to the user or other people and property damage, the following instructions must be followed. Incorrect operation due to ignoring of instructions may cause harm or damage.

The safety precautions listed are divided into two categories. In either case, important safety information is listed which must be read.



WARNING

Failure to observe a warning may result in death. The appliance shall be installed in accordance with national wiring regulations.



CAUTION

Failure to observe a caution may result in injury or damage to the equipment.



WARNING

Ask your dealer for installation of the air conditioner.

Incomplete installation performed by yourself may result in a water leakage, electric shock, and fire.

Ask your dealer for improvement, repair, and maintenance. Incomplete improvement, repair, and maintenance may result in a water leakage, electric shock, and fire.

In order to avoid electric shock, fire or injury, or if you detect any abnormality such as smell of fire, turn off the power supply and call your dealer for instructions.

Never let the indoor unit or the remote control get wet.

It may cause an electric shock or a fire.

Never press the button of the remote control with a hard, pointed object.

The remote control may be damaged.

Never replace a fuse with that of wrong rated current or other wires when a fuse blows out.

Use of wire or copper wire may cause the unit to break down or cause a fire.

It is not good for your health to expose your body to the air flow for a long time.

Do not insert fingers, rods or other objects into the air inlet or

When the fan is rotating at high speed, it will cause injury.

Never use a flammable spray such as hair spray, lacquer or paint near the unit.

It may cause a fire.

Never touch the air outlet or the horizontal blades while the swing flap is in operation.

You may hurt your fingers and damage the unit.

Never put any objects into the air inlet or outlet. Objects touching the fan at high speed can be dangerous.

Never inspect or service the unit by yourself. Ask a qualified service person to perform this work.

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the regarding the available collection system, damaging your health and well-being.

To prevent refrigerant leak, contact your dealer.

When the system is installed and runs in a small room, it is required to keep the concentration of the refrigerant if by any chance coming out, below the limit. Otherwise, oxygen in the room may be affected.

The refrigerant in the air conditioner is safe and normally does not leak.

Refrigerant exposure to fire or any type of heat source may cause harmful gas.

Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.

Do not use the air conditioner until a service person confirms that the portion where the refrigerant leaks is repaired.

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Do not use the air conditioner for other purposes.

In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art

Before cleaning, be sure to stop the operation, turn the breaker off or pull out the supply cord.

Otherwise, an electric shock and injury may result.

In order to avoid electric shock or fire, make sure that an ground leak detector is installed.

Be sure the air conditioner is grounded.

In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to gas or water pipe, lightning conductor or telephone earth wire.

In order to avoid injury, do not remove the fan guard of the outdoor unit.

Do not operate the air conditioner with a wet hand. An electric shock may happen.

Do not touch the heat exchanger fins.

These fins are sharp and could result in cutting injuries.

Do not place items which might be damaged by moisture under the indoor unit.

Condensation may form if the humidity is above 80%, the drain outlet is blocked or the filter is polluted.

After a long use, check the unit stand and fitting for damage. If damaged, the unit may fall and result in injury.

To avoid oxygen deficiency, ventilate the room sufficiently if equipment with burner is used together with the air conditioner.

Arrange the drain hose to ensure smooth drainage. Incomplete drainage may cause wetting of the area.

Never touch the internal parts of the controller.

Do not remove the front panel. Some parts inside are dangerous to touch, and may cause problems with the unit.

Never expose small children, plants or animals directly to the air flow.

Adverse influence to small children, animals and plants may occur.

Do not allow a child to mount on the outdoor unit or avoid placing any object on it.

Falling or tumbling may result in injury.

Do not operate the air conditioner when using a room fumigation - type insecticide.

Failure to observe could cause the chemicals to become deposited in the unit, which could endanger the health of those who are hypersensitive to chemicals.

Do not place appliances which produce open fire in places

exposed to the air flow from the unit or under the indoor unit.

It may cause incomplete combustion or deformation of the unit due to the heat.

Do not install the air conditioner at any place where flammable gas may leak out.

If the gas leaks out and stays around the air conditioner, a fire may break out.

The appliance is not intended for use by young children or infirm persons without supervision.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

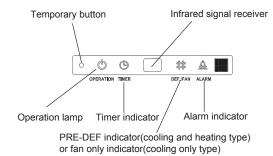
If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Do not operate your air conditioner in a wet room such as a bathroom or laundry room.

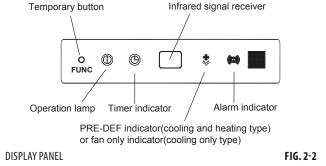
PART NAMES

The air conditioner consists of the indoor unit, the outdoor unit, the connecting pipe and the remote controller. (See Fig.2)

Function indicators on indoor unit display panel.



DISPLAY PANEL FIG. 2-1



This function is used to operate the unit temporarily in case you misplace the remote control or its batteries are exhausted. Two modes including AUTO and FORCED COOL can be selected through the TEMPORARY BUTTON on the air-in grill control box of the indoor unit. Once you push this button, the air conditioner will run in such order: AUTO, FORCED COOL, OFF, and back to AUTO.

AUTO

The OPERATION lamp is lit, and the air conditioner will run under AUTO mode. The remote control operation is enabled to operate according to the received signal.

FORCED COOL

The OPERATION lamp flashes, the air conditioner will turn to AUTO after it is enforced to cool with a fan speed on HIGH for 30 minutes. The remote control operation is disabled.

The OPERATION lamp goes off. The air conditioner is OFF while the remote control operation is enabled.



This manual does not include Remote Control Operations, see the << Remote Control Owner's manual>> packed with the unit for details.

3. AIR CONDITIONER OPERATIONS AND PERFORMANCE

Use the system in the following temperature for safe and effective operation. The Max operation temperature for the air conditioner (Cooling/Heating).

TABLE. 3-1 (FOR INVERTER TYPE AIR CONDITIONER)

Temperature Mode	Outdoor temperature	Room temperature
Cooling operation	$0^{\circ}\text{C} \sim 50^{\circ}\text{C} / 32^{\circ}\text{F} \sim 122^{\circ}\text{F}$ -15°C $\sim 50^{\circ}\text{C} / 5^{\circ}\text{F} \sim 122^{\circ}\text{F}$ (for the models with low temperature cooling system)	17°C ~ 32°C (62 °F ~ 90°F)
Heating operation (cooling only type without)	-15°C ~ 24°C / 5 °F~76°F	0°C ~ 30°C / 32 °F~86°F
Dry operation	0°C ~ 50°C / 32 °F~122°F	17°C ~ 32°C (62 °F ~ 90°F)

TABLE. 3-2

Temperature Mode	Outdoor temperature	Room temperature	
	18°C ~ 43°C / 64 °F~109°F	17°C ~ 32°C (62 °F ~ 90°F)	
Cooling operation	-7°C ~ 43°C / 20 °F~109°F (for the models with low temperature cooling system)		
	18°C ~ 52°C / 64 °F~126°F (for special tropical models)		
Heating operation (cooling only type without)	-7°C ~ 24°C / 20 °F ~ 76°F	0°C ~ 30°C / 32 °F~86°F	
	18°C ~ 43°C / 64 °F~109°F	4700 0000	
Dry operation	18°C ~ 52°C / 64 °F~126°F (for special tropical models)	17°C ~ 32°C (62 °F ~ 90°F)	



NOTE

- If air conditioner is used outside the above conditions, it may cause the unit to function abnormally.
- In high humidity areas, you may observe the presence of condensed water on the surface of the unit. Close doors and windows to revert the situation.
- Optimum performance will be achieved within these operating temperature range.

Three-minute protection feature

A protection feature prevents the air conditioner from being activated for approximately 3 minutes when it restarts immediately after operation.

Auto-restart function

- Power failure during operation will stop the unit completely.
- When the power restores, the OPERATION indicator on the

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indoor unit starts flashing. For the unit without Auto-restart feature, to restart the operation, push the ON/OFF button on the remote controller. For the unit with Auto-restart feature, the unit restarts automatically with all the previous settings preserved by the memory function.

■ Refrigerant Leakage Detection(optional):

With this new technology, when refrigerant leakage is detected by the outdoor unit, EC (if applicable) will appear in the display area and a indication lamp will flash in the LED.

Louver Angle Memory Function(optional):

For some models, the machine is special designed with louver angle memory function. Power failure during operation or pressing the ON/OFF button on the remote controller will stop the unit completely. When the power restores or pressing the ON/OFF button on the remote controller again, the unit restarts automatically with the previous open angle of the horizontal louver by the memory function. So we strongly recommend that the open angle of the horizontal louver should not be set too small, to prevent water condensation from the horizontal louver. Press the Manual control button and the open angle of the horizontal louver will be restored to the standard angle.

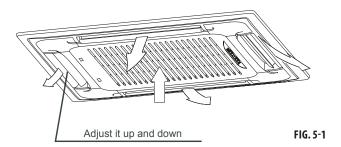
4. HINTS FOR ECONOMICAL OPERATION

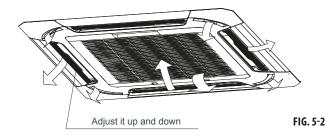
The following should be noticed to ensure an economical operation.

- Adjust the air flow direction to avoid direct flow towards people.
- Adjust the room temperature properly for a pleasurable environment. Avoid excessive heating or cooling.
- Avoid direct sunlight during cooling operation by using curtains or blinds.
- Ventilate often. Extended use requires special attention to ventilation.
- Keep doors and windows closed. If the doors and windows remain open, air will flow out of your room causing a decrease in the cooling or heating effect.
- Never place objects near the air inlet or the air outlet of the unit. It may cause deterioration or stop the operation of the unit.
- Set the timer for the desired operating time.
- If you don't plan to use the unit for a long time, please take the batteries from the remote control. When the power is on, some energy will be consumed, even if the air conditioner isn't in operation. So please disconnect the power to save energy. Switch the power on 12 hours before you restart the unit to ensure a smooth operation.
- Keep the indoor unit and remote control at least 1 m away from televisions, radios, stereos, and other similar equipment. Failing to do so may cause static or distorted pictures.
- A dirty air filter will reduce cooling or heating efficiency, please clean it once every two weeks.

5. ADJUSTING AIR FLOW DIRECTION

While the unit is in operation, you can adjust the air flow louver to change the flow direction and disperse the room temperature evenly. Thus you can enjoy it more comfortably.





Set the air flow direction.

Press the SWING button to adjust the louver to the desired position and press this button again to maintain the louver at this position.

Adjust the air flow direction automatically.

Press the SWING button, the louver will swing automatically. While this function is set, the swing fan of indoor unit runs; otherwise, the swing fan doesn't run. The swing scale of every side is 30°. When the air conditioner isn't in operation (including when TIMER ON is set), the SWING button will be invalid.

6. MAINTENANCE



CAUTION

Before you clean the air conditioner, be sure the power supply is off.

Check if the wiring is not broken off or disconnected.

Use a dry cloth to wipe the indoor unit and remote controller.

A wet cloth may be used to clean the indoor unit if it is very dirty.

Never use a damp cloth on the remote controller.

Do not use a chemically-treted duster for wiping or leave such material on the unit for long.

it may damage or fade the surface of the unit.

Do not use benzine, thinner, polishing powder, or similar solvents for cleaning.

These may cause the plastic surface to crack or deform.

Maintenance after a long stop period

(eg. at the beginning of the season)

Check and remove everything that might be blocking inlet and outlet vents of indoor units and outdoor units. Clean air filters and casings of indoor units.

Refer to "Cleaning the air filter" for details on how to proceed and make sure to install cleaned air filters back in the same

Turn on the power at least 12 hours before operating the unit in order to ensure smoother operation. As soon as he power is turned on, the remote control displays appear.

Maintenance before a long stop period (eg. at the end of the season)

Let the indoor units run in fan only operation for about half a day in order to dry the interior of the units.

Clean air filters and casings of indoor units. Refer to "Cleaning the air filter" for details on how to proceed and make sure to install cleaned air filters back in the same position.

Cleaning the air filter

The air filter can prevent the dust or other particles from going inside. In case of blockage of the filter, the working efficiency of the air conditioner may greatly decrease. Therefore, the filter must be cleaned once every two weeks during long time usage.

If the air conditioner is installed in a dusty place, clean the air filter frequently.

If the accumulated dust is too heavy to be cleaned, please replace the filter with a new one(replaceable air filter is an optional fitting).

Open the air-in grill

Push the grill switches towards the middle simultaneously as indicated in Fig.6-1. Then pull down the air-in grill.

The control box cables ,which are originally connected with the main body electrical terminators must be pulled off before doing as indicated above.

Take out the air-in grill (together with the air filter shown in

Pull the air-in grill down at 45 degrees angle and lift it up to take out the grill.

Dismantle the air filter.

Clean the air filter

Vacuum cleaner or pure water may be used to clean the air filter. If the dust accumulation is too heavy, please use soft brush and mild detergent to clean it and dry out in cool place.

- The air-in side should face up when using vacuum cleaner. (See Fig. 6-3)
- The air-in side should face down when using water. (See Fig. 6-4)



Do not dry out the air filter under direct sunshine or with heat.

- Re-install the air filter.
- Install and close the air-in grill in the reverse order of step 1 and 2 and connect the control box cables to the corresponding terminators of the main body.

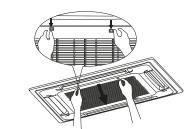


FIG. 6-1



FIG. 6-2

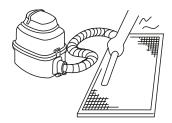


FIG. 6-3

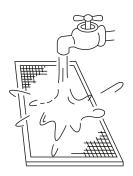


FIG. 6-4

FOLLOWING SYMPTOMS ARE NOT AIR CONDITIONER MALFUNCTIONS

Symptom 1: The system does not operate

The air conditioner does not start immediately after the ON/ OFF button on the romote controller is pressed. If the operation lamp lights, the system is in normal condition. To prevent overloading of the compressor motor, the air conditioner starts 3 minutes after it is turned ON.

Symptom 2: Change into the fan mode during cooling mode

- In order to prevent the indoor evaporator frosting, the system will change into fan mode automatically, when low temperatures are detected. Once the temperature of the tube have raise, the cooling mode will be restored.
- When the room temperature drops to the set temperature, the compressor turns off and the indoor unit changes to fan mode; when the temperature rises, the compressor starts again. It is same in the heating mode.

Symptom 3: White mist comes out of a unit

Symptom 3.1: Indoor unit

■ When humidity is high during cooling operation, if the indoor unit is dirty, the temperature distribution is uneven. It is necessary to clean the interior of the indoor unit. Ask your dealer for details on cleaning the unit. This operation requires a qualified service person.

Symptom 3.2: Indoor unit, outdoor unit

When the system is changed over to heating operation after defrost operation moisture generated by defrost becomes steam and is exhausted.

Sptom 4: Noise of air conditioner coil

Symptom 4.1: Indoor unit

A continuous low "shah" sound is heard when the system is in cooling operation or at a stop.

When the drain pump (optional accessories) is in operation, this noise is heard.

■ A "pishi-pishi" squeaking sound is heard when the system stops after heating operation.

Expansion and contraction of plastic parts caused by temperature change make this noise.

Symptom 4.2: Indoor unit, outdoor unit

A continuous low hissing sound is heard when the system is in operation.

This is the sound of refrigerant gas flowing through both indoor and outdoor units.

A hissing sound which is heard at the start or immediately after stopping operation or defrost operation.

This is the noise of refrigerant caused by flow stop or flow change.

Symptom 4.3: Outdoor unit

■ When the tone of operating noise changes.

This noise is caused by the change of frequency.

Symptom 5: Dust comes out of the unit

When the unit is used for the first time in a long time. This is because dust has gotten into the unit.

Symptom 6: The units can give off odours

The unit can absorb the smell of rooms, furniture, cigarettes, etc., and then emit it again.

Symptom 7: The outdoor unit fan does not spin.

 During operation. The speed of the fan is controlled in order to optimize product operation.

8. TROUBLESHOOTING

8.1 TROUBLES AND CAUSES OF AIR CONDITIONER MALFUNCTION

If one of the following malfunctions occur, stop operation, shut off the power, and contact with your dealer.

- The operation lamp is flashing rapidly (5Hz)
 This lamp is still flashing rapidly after turn off the power and turn on again. (See in Table 8-1a and Table 8-1b).
- Remote control is giving the wrong signal or not working properly.
- A safety device such as a fuse or breaker frequently actuates.
- Foreign objects or water enter the unit.
- Water leaks from indoor unit.
- Other malfunctions.

If the system does not operate properly or when the above events are not evident, you may analyze the system according to the following procedures. (See in table 8-2)

8.2 TROUBLES AND CAUSES OF REMOTE CONTROLLER

Before asking for servicing or repairing, check the following points. (See in Table 8-3).

TABLE 8-1_A (APPLICABLE TO INVERTER AIR CONDITIONER TYPE ONLY)

NO.	Malfunction	running lamp	timer lamp	defrosting lamp	alarm lamp	display
1	Collision model malfunction			Quick-flash		E0
2	In-outdoor unit communication checking channel is abnormal		Quick-flash			E1
3	Room temperature sensor checking channel is abnormal	Quick-flash				E2
4	Pipe temperature sensor (T2) checking channel is abnormall	Quick-flash				E3
5	Pipe temperature sensor (T2B) checking channel is abnormal	Quick-flash				E4
6	EEPROM malfunction			Quick-flash		E7
7	In door fan unit stall malfunction			Quick-flash	Quick-flash	E8
8	Outdoor unit malfunction				Slow-flash	Ed
9	Water-level alarm malfunction				Quick-flash	EE
10	Lifting panel communication checking channel is abnormal	Quick-flash		Quick-flash	Quick-flash	F0
11	Lifting panel malfunction		Quick-flash	Quick-flash	Quick-flash	F1
12	Lifting panel is not closed		On	Quick-flash	Quick-flash	F2
13	Indoor master/slave unit communication checking channel is abnormal		Quick-flash		Quick-flash	F3
14	Other malfunctions of master/ slave unit	Quick-flash			Quick-flash	F4
15	Refrigerant leakage detection malfunction	On		Quick-flash	Quick-flash	EC

TABLE 8-1_B (APPLICABLE TO FIXED-FREQUENCY AIR CONDITIONER TYPE ONLY)

NO.	Malfunction	running lamp	timer lamp	defrosting lamp	alarm lamp	display
1	In-outdoor unit communication checking channel is abnormal	Quick-flash		Quick-flash		E1
2	Room temperature sensor checking channel is abnormal		Quick-flash			E2
3	Evaporator sensor malfunction	Quick-flash				E3
4	Condenser sensor malfunction			Quick-flash		E4
5	Water pump temperature sensor				Quick-flash	E5
6	Outdoor malfunction	Quick-flash	Quick-flash	Quick-flash	Quick-flash	E6
7	EEPROM malfunction	Quick-flash	Quick-flash			E7
8	Water-level alarm malfunction				Quick-flash	E8
9	DC motor speed out of control		Quick-flash		Quick-flash	Eb
10	Outdoor unit low pressure malfunction	Quick-flash	Quick-flash	Quick-flash		Ed
11	Lifting panel communication checking channel is abnormal	Quick-flash		Quick-flash	Quick-flash	F0
12	Lifting panel malfunction		Quick-flash	Quick-flash	Quick-flash	F1
13	Lifting panel is not closed		On	Quick-flash	Quick-flash	F2
14	Refrigerant leakage detection malfunction	Quick-flash			Quick-flash	EC

TABLE 8-2

Symptoms	Causes	Solution
Unit does not start	 Power failure. Power switch is off. Fuse of power switch may have burned. Batteries of remote controller exhausted or other problem of controller. 	Wait for the comeback of power. Switch on the power. Replace the fuse. Replace the batteries or check the controller.
Air flowing normally but not cooling	 Temperature is not set correctly. Be in 3 minutes protection of compressor. 	Set the temperature properly. Wait.
Units start or stop frequently	 Refrigerant is too little or too much. Air or contaminated gas gas in the refrigerating circuit. Compressor is malfunctioning. Voltage is too high or too low. System circuit is blocked. 	Check leakage, and rightly recharge refrigerant. Vacuum and recharge refrigerant. Maintenance or change compressor. Install manostat.
Low cooling effect	Outdoor unit and indoor unit heat exchanger is dirty. The air filter is dirty. Inlet/outlet of indoor/outdoor units is blocked. Doors and windows are open Direct sunshine exposure. Too much heat resource. Outdoor temp. is too high. Leakage of refrigerant or lack of refrigerant.	Clean the heat exchanger. Clean the air filter. Eliminate possible cause of blockage. Close doors and windows. The use of curtains or blinds is recommended. Reduce heat source. AC cooling capacity reduces (normal).
Low heating effect	Outdoor temperature is lower than 7°C. Doors and windows not completely closed. Leakage of refrigerant or lack of refrigerant.	Use heating device. Close doors and windows. Check leakage and rightly recharge refrigerant.

TABLE 8-3

Symptoms	Causes	Solution
The fan speed can not be	 Check whether the MODE indicated on the display is "AUTO" 	When the automatic mode is selected, the air conditioner will automatically change the fan speed.
changed.	 Check whether the MODE indicated on the display is "DRY" 	When dry operation is selected, the air conditioner automatically changes the fan speed. The fan speed can be selected during "COOL", "FAN ONLY", and "HEAT".
The remote control signal is not transmitted even when the ON/OFF button is pushed.	 Check whether the batteries in the remote controller are exhausted. 	The power supply is off.
The TEMP. indicator does not come on.	 Check whether the MODE indicated on the display is FAN ONLY 	The temperature cannot be set during FAN mode.
The indication on the display disappears after a lapse of time.	 Check whether the timer operation has come to an end when the TIMER OFF is indicated on the display. 	The air conditioner operation will stop to the set time.
The TIMER ON indicator goes off after a lapse of certain time.	 Check whether the timer operation is started when the TIMER ON is indicated on the display. 	Up to the set time, the air conditioner will automatically start and the appropriate indicator will go off.
No receiving tone sounds from the indoor unit even when the ON/OFF button is pressed.	 Check whether the signal transmitter of the remote controller is properly directed to the infrared signal receiver of the indoor unit when the ON/OFF button is pressed. 	Directly transmit the signal transmitter of the remote controller to the infrared signal receiver of the indoor unit, and then repeatly push the ON/OFF button twice.

