

# OWNER'S MANUAL

## R-410A Duct Free Split System Air Conditioner and Heat Pump

Product Family: DFF4(A/H)H, DFC4(A/H)3

Please read the operating instructions and safety precautions carefully and thoroughly before installing and operating your room air conditioner or heat pump.

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#### NOTE TO EQUIPMENT OWNER:

Thank you for your purchase. Please read this Owner's Information Manual carefully before installing and using this appliance and keep this manual for future reference.

For your convenience, please record the model and serial numbers of your new equipment in the spaces provided. This information, along with the installation data and dealer contact information, will be helpful should your system require maintenance or service.

#### UNIT INFORMATION

Model # \_\_\_\_\_

Serial # \_\_\_\_\_

#### DEALERSHIP CONTACT INFORMATION

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

#### INSTALLATION INFORMATION

Date Installed \_\_\_\_\_

Phone Number: \_\_\_\_\_

Technician Name: \_\_\_\_\_


## SAFETY PRECAUTIONS

### WARNING

#### PERSONAL INJURY, DEATH, OR PROPERTY DAMAGE HAZARD

Failure to follow this warning could result in personal injury, death, or property damage.

Read and follow all instructions and warnings, including labels shipped with or attached to unit before operating your new air conditioner.

Any time you see this symbol  in manuals, instructions and on the unit, be aware of the potential for personal injury. There are three levels of precaution:

**DANGER** identifies the most serious hazards which will result in severe personal injury or death.

**WARNING** signifies hazards that could result in personal injury or death.

**CAUTION** is used to identify unsafe practices which would result in minor personal injury or product and property damage.

## GENERAL

The high wall fan coil unit provides quiet, maximum comfort. In addition to cooling and/or heating, the high wall fan coil unit matched with an outdoor condensing unit will filter and dehumidify the air in the room to provide maximum comfort.

**IMPORTANT:** The high wall fan coil unit should be installed by authorized personnel only; using approved tubing and accessories. If technical assistance, service or repair is needed, contact the installer or local dealer.

The high wall fan coil unit can be set up and operated from the remote control (provided). **If the remote is misplaced, the system can be operated from the “Auto” setting on the unit.**

### Operating Modes:

The high wall fan coil unit has five operating modes.

- Fan only
- Auto (heat pump models only)
- Heating (heat pump models only)
- Cooling
- Dehumidification (DRY)

### Fan Only

In Fan Only mode, the system filters and circulates room air without changing room air temperature.

### Auto

In Auto mode, the system will automatically cool or heat the room according to the user-selected set point.

### Heating

In Heating mode, the system heats and filters room air.

### Cooling

In Cooling mode, the system cools, dries and filters room air.

### Dehumidification (DRY)

In Dehumidification mode, the system dries, filters and slightly cools room air temperature. This mode **does not** take the place of a dehumidifier.

**NOTE** is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

### WARNING

#### PERSONAL INJURY, DEATH AND / OR PROPERTY DAMAGE HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage.

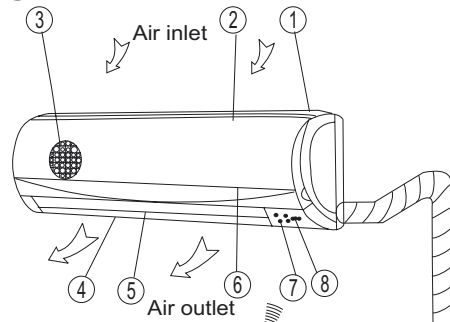
Consult a qualified installer, service agency, your distributor or branch for information or assistance. The qualified installer or service agency must use factory-authorized kits or accessories when modifying this product.

### Remote Control

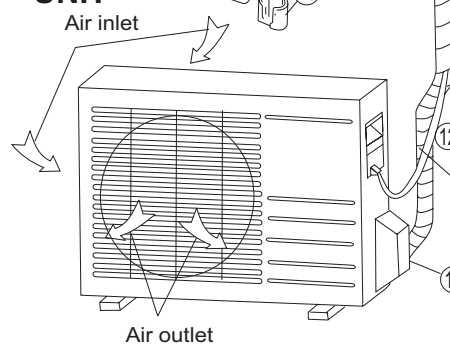
The remote control transmits commands to set up and operate the system. The controller has a window display panel that shows the current system status. The controller can be secured to a surface when used with the mounting rack provided.

**PART NAMES**

**INDOOR UNIT**

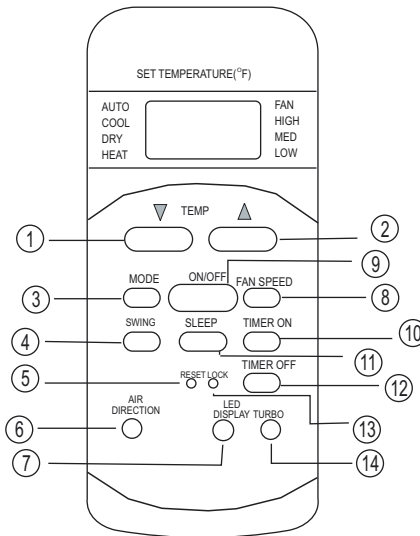


**OUTDOOR UNIT**



- ① Front panel frame
- ② Front panel
- ③ Air filter
- ④ Horizontal air flow grille
- ⑤ Vertical air flow louver
- ⑥ Room temperature sensor
- ⑦ Display panel
- ⑧ Infrared signal receiver
- ⑨ Remote controller
- ⑩ Remote controller holder
- ⑪ Interconnecting tubing
- ⑫ Connective cable
- ⑬ Service valve

**Indoor/Outdoor Unit**



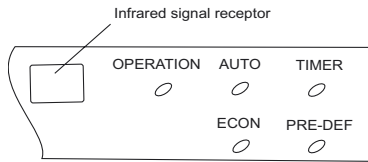
- ① TEMP Button ▼
- ② TEMP Button ▲
- ③ MODE Selection Button
- ④ SWING Button
- ⑤ RESET Button:
- ⑥ AIR DIRECTION Button:
- ⑦ LED DISPLAY Button:
- ⑧ FAN SPEED Button:
- ⑨ ON/OFF Button:
- ⑩ TIMER ON Button:
- ⑪ SLEEP Button:
- ⑫ TIMER OFF Button:
- ⑬ LOCK Button:
- ⑭ TURBO Button:

**Remote Controller**

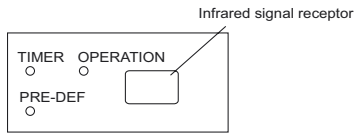
## UNIT DISPLAY PANELS

**NOTE:** The display panel on the indoor unit will look like one of the following. Some of the functions will appear on either the display panel, remote controller, or both.

### On the Unit:

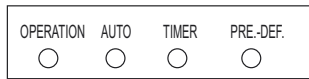


**9K**

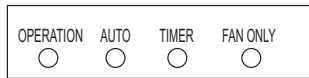


**12K**

Cooling/Heating



Cooling Only



**18K – 24K**

### OPERATION:

This indicator flashes once per second after power is on and illuminates when the unit is in operation.

### TIMER:

This indicator illuminates when TIMER is set ON or OFF.

### PRE.-DEF indicator (heat pump units only):

Pre-Def indicator illuminates when the coil is warming up to prevent cold blow or when unit goes into defrost mode.

### AUTO indicator:

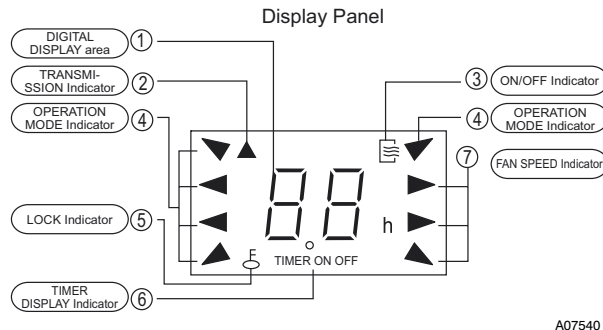
When air conditioner is set to AUTO mode, the indicator illuminates.

### FAN ONLY indicator:

When air conditioner is set to FAN ONLY mode, this indicator illuminates.

**NOTE:** All the pictures in this manual are for demonstration purposes only. The actual shape of your air conditioner may be slightly different, but the operation instructions are the same.

## Remote Control Display



① **DIGITAL DISPLAY area:** What is displayed in this area depends on the mode in which the unit is running in. The set point will show if the unit is running in any mode besides Fan Only Mode. When the unit is running in Fan Only mode, nothing is displayed. When Timer is on, TIMER ON OFF indicator will appear.

② **TRANSMISSION Indicator:** This indicator flashes once when remote controller transmits signals to the indoor unit. An audible “beep” will also be heard.

③ **ON/OFF Indicator:** This symbol appears when the unit is turned on by the remote controller, and disappear when the unit is turned off.

④ **OPERATION MODE Indicator:** Shows the current operating mode -- “AUTO”, “COOL”, “DRY”, “HEAT” (Cooling only model without), or “FAN”.

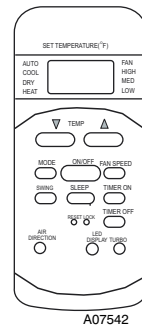
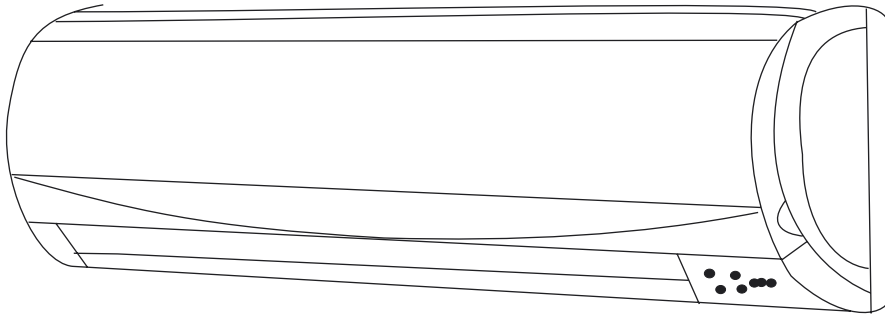
⑤ **LOCK Indicator:** Appears when settings are locked.

⑥ **TIMER DISPLAY Indicator:** Displays “TIMER ON”, “TIMER OFF”, “TIMER ON-OFF” when both are used.

⑦ **FAN SPEED Indicator:** Indicates fan speed selected. If “AUTO” is selected, nothing is displayed.

**NOTE:** Symbols shown in this manual are for the purpose of demonstration. During actual operation, only the relevant symbols are displayed.

## REMOTE CONTROL



### ⚠ CAUTION

#### EQUIPMENT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage.  
Handle the controller with care and avoid getting the controller wet.

**IMPORTANT:** The remote control can operate the unit from a distance of up to 16 ft. (4.88 m) as long as there are no obstructions. This is one-way communication only (from remote control to fan coil).

The remote control can perform the following basic functions:

- Turn the system ON and OFF
- Select operating mode
- Adjust room air temperature set point and fan speed
- Adjust airflow direction

Refer to the *Remote Control Function* section for detailed description of all the capabilities of the remote controller.

### Battery Installation

Two AAA 1.5 v alkaline batteries (included) are required for operation of the remote control.

To install or replace batteries:

1. Slide the back cover off the control to open the battery compartment.
2. Insert batteries. Follow the polarity markings inside the battery compartment.
3. Replace battery compartment cover.

#### NOTE:

1. When replacing batteries, do not use old batteries or a different type battery. This may cause the remote control to malfunction.
2. If the remote is not going to be used for several weeks, remove the batteries. Otherwise battery leakage may damage the remote controller.
3. The average battery life under normal use is about 6 months.
4. Replace the batteries when there is no audible beep from the indoor unit or if the Transmission Indicator fails to light.

### Remote Control Operation – Quick Start

**NOTE:** When transmitting a command from the remote control to the unit, be sure to point the controller toward the right side of the unit. The unit will confirm receipt of a command by sounding an audible beep.

1. Turn the unit on by pushing the **ON/OFF** button.
2. Select the desired mode by pushing the mode button.



**NOTE:** Cool only units have no heat mode.

3. Select the temperature set point by pointing the controller toward the unit and pressing the increase/decrease temperature set point buttons until the desired temperature appears on screen.
4. Select the desired fan speed by pressing the **FAN SPEED** button to select desired fan speed.

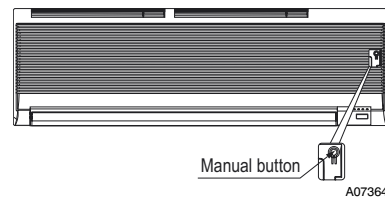
**NOTE:** If unit is operating in Dry mode the fan will only operate in low speed and cannot be changed.

5. Set the airflow direction. When the unit is turned on, the louvers default to the cooling or heating position. The user can adjust louver position by pushing the air direction button or have continuous louver movement by pushing the swing button.

### Emergency Operation

If the remote control is lost, damaged, or the batteries are exhausted, the **MANUAL** button can be used to run the unit. Open the front cover panel and press the **MANUAL** button once briefly when the system is off.

To stop emergency operation, push the **MANUAL** button **twice** or operate the remote control. If the **MANUAL** button is only pushed **once**, the system will enter **TEST** mode and run for 30 minutes.

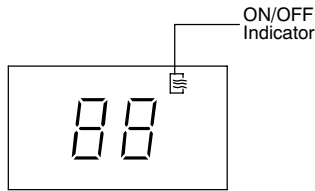


The set conditions of emergency operation are as follows:

- Preset set point: 76°F (24°C)
- Fan speed: AUTO
- Discharge air direction: Pre-set position based on operation in "Cool" or "Heat" mode.

## REMOTE CONTROL FUNCTIONS

### Pressing the On/Off Button



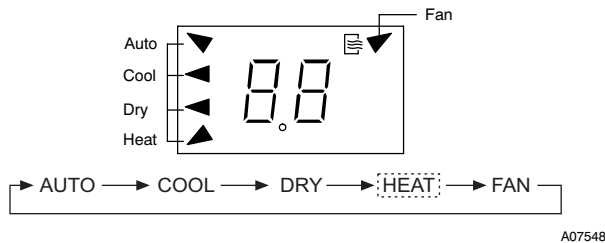
When the air conditioner is not in operation, the remote control will display the last set point and mode.

- Press the On/Off button to start the unit.
  - The unit will start in the last operating mode and set point. The ON/OFF indicator will appear.
- Press button On/Off to stop the unit.
  - All indicator lights on the unit will go out, and the remote control will display the set point and mode.

**NOTE:** If the On/Off button is pressed too soon after a stop, the compressor will not start for 3 minutes due to the inherent protection against frequent compressor cycling. The unit will only emit an audible beep when the signals are received correctly.

### Selecting an Operating Mode

Use the Operating Mode button to select one of the available modes.



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### Setting the Room Temperature Set Point

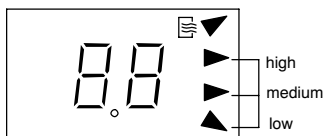
Pressing the increase temperature set point ▲ and decrease ▼ buttons will raise or lower the temperature.

The unit will confirm signal receipt with a beep and the value of the set temperature on the display will change accordingly.

The temperature can be set between 62°F (17°C) and 84°F (29°C).

**NOTE:** In Cooling mode, if the temperature selected is higher than the room temperature, the unit will not start. The same applies for the Heating mode if the selected temperature is lower than the room temperature.

### Selecting the Fan Speed



The fan speed can be selected by pressing the **FAN SPEED** button.

**NOTE:** When fan is in AUTO mode, no speed will be displayed.

**NOTE:** When the unit is on, the fan will run continuously in cooling or heating. When in heating, there might be situations where the fan will slow down or shut off to prevent cold blow.

### Selecting the Horizontal Direction Louver Position

The airflow direction can be adjusted to optimize air distribution.

Press the AIR DIRECTION button repeatedly to choose one of the louver positions.

In the Cooling, Dehumidification, and Fan Only mode, the louver will swing in the cooling range. In the Heating mode, the louver will swing in the heating range.

**NOTE:** Always use the remote control to adjust the louver position, otherwise abnormal operation may occur. If the louver is manually adjusted out of its range, turn the unit off and then on again.

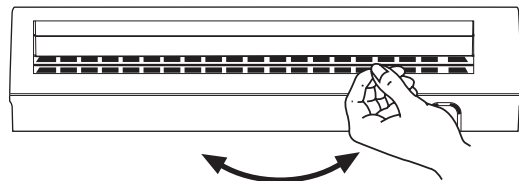
### Auto Swing

To have the louver moving continuously, push the SWING button.

Push again to stop the louver.

### Selecting Vertical Direction of the Louver

The vertical louvers can be adjusted manually to direct the airflow to achieve the optimal comfort in the space.



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### Timer Function

TIMER ON (to start the unit) and TIMER OFF (to stop the unit) can be used separately or together.

#### Timer ON only



This function will allow the unit to start automatically after a set number of hours. The TIMER ON can be set while the unit is on or off.

#### UNIT ON

- Press the TIMER ON button. "0:00" will be displayed. Every time you push the button, the time increases by increments of .5 hours until 10 hours is reached. After 10 hours, the increases are in increments of 1 hour.

- When the TIMER ON is set, the TIMER light on unit illuminates. The unit will shut off and it will start again after the set time elapses.

#### UNIT OFF

- Set the timer described in the UNIT ON section.

- The unit will start when the set time elapses.

**Timer OFF only**

This function will allow the unit to stop automatically after a set number of hours. The timer can be set while the unit is on or while it is off.

**UNIT ON**

-Press the TIMER OFF button. "0:00" will be displayed. Every time the button is pushed, the time increases in increments of .5 hours until 10 hours is reached. After 10 hours is reached, the time increases in increments of 1 hour.

-When the TIMER OFF is set, the timer light on the unit illuminates and the unit turns off automatically when the set time elapses.

**UNIT OFF**

-Set the TIMER off as described in the UNIT ON section.

-The unit will turn on and will turn off after set time elapses.

-If TIMER OFF is set back to "0" before the set time elapses, the unit will continue running.

**Timer ON and Timer OFF**

Use both functions to program the unit to turn on and shut off at specified times.

**UNIT OFF**

-Set TIMER ON as previously described.

-Set TIMER OFF as previously described.

-The unit will start automatically after the set TIME ON elapses and will turn off after the set TIME OFF elapses.

**UNIT ON**

-Set TIME OFF as previously described.

-Set TIME ON as previously described.

-The unit will turn off automatically after the set TIME OFF elapses and will turn on after the set TIME ON elapses.

**Sleep Mode**

This mode is used to conserve energy and can be used when the unit is in the COOL, HEAT or AUTO mode only.

**Cool Mode**

-Push the SLEEP button. An audible "beep" will be heard. No indication is shown on the remote controller or on unit.

-After 1 hour the set point will be raised by 1.8°F (1°C).

-After another hour, the set point will be raised by another 1.8°F (1°C) and the fan will run in low speed.

-The unit will shut off 7 hours after setting the SLEEP mode.

-The SLEEP mode will be cancelled if any button on the remote controller is pressed.

**Heat Mode**

-Same as cooling mode but set points will be lowered by 1.8°F (1°C).

**Turbo Mode**

This function is available in COOL mode on 9k and 12k cooling only units. Use the TURBO mode to cool the room rapidly.

-Press the TURBO button. An audible "beep" will be heard.

-The fan will run on high speed.

-Press the TURBO button again to cancel. An audible "beep" will be heard.

**Lock**

Use this function to lock the settings on the remote controller and to prevent the settings being changed.

The LOCK button is recessed and a paper clip or a pointed object will be required to operate it.

-Use the remote controller to set the desired conditions of operation.

-Use a paper clip or similar pointed object to press the recessed button. A LOCK will be displayed and the settings cannot be changed.

-To cancel the LOCK mode, press the lock button again.

**Resetting the Remote Controller**

If the remote control is not functioning properly, it can be reset by pressing the reset button with a paper clip or tip of a pen. Current settings will be cancelled and the controller will return to the initial settings and will be in standby mode. Push the ON/OFF button to activate it.

**Time Delay**

If the On/Off button is pressed too soon after a stop, the compressor will not start for 3 minutes due to the inherent protection against frequent compressor cycling. The unit will only emit an audible beep when the signals are received correctly.

**Heating Features**

If the unit is in the heating mode, there will be a delay when the fan starts. The fan will start only after the coil is warmed up to prevent cold blow.

**Defrost Operation**

In heating mode, if the outdoor coil is frosted, the indoor fan and outdoor fan will turn off while system removes the frost on the outdoor coil.

The system will automatically revert to normal operation when frost is removed from the outdoor unit.

**Auto Start**

If the power fails while the unit is operating, the unit stores the operating condition, and it will start operation automatically under those conditions when the power is restored.

## CLEANING, MAINTENANCE, AND TROUBLESHOOTING

### ⚠ CAUTION

#### ELECTRICAL SHOCK HAZARD

Failure to follow this caution may result in personal injury or death.

Always turn off power to the system before performing any cleaning or maintenance to the system. Turn off the outdoor disconnect switch located near outdoor unit. Be sure to disconnect indoor unit if on a separate switch.

### ⚠ CAUTION

#### EQUIPMENT DAMAGE/OPERATION HAZARD

Failure to follow this caution may result in equipment damage or improper unit operation.

Operating the system with dirty air filters may damage the indoor unit and could cause reduced cooling performance, intermittent system operation, frost build-up on indoor coil or blown fuses.

### Periodic Maintenance

Periodic maintenance is recommended to ensure proper operation of the unit. Recommended maintenance intervals may vary depending on the installation environment, e.g., dusty zones, etc. Refer to Table 1.

### ⚠ CAUTION

#### CUT HAZARD

Failure to follow this caution may result in personal injury. The coil fins are very sharp. Use caution when cleaning.

### Cleaning the Coil

Clean the coil at the beginning of each cooling season, or when necessary. Use a vacuum cleaner or a long-bristle brush to avoid damage to the coil fins.

### Air Filters

Remove and clean the air filters once a month.

**NOTE:** If air filters show signs of excessive wear or are torn, they must be replaced. Contact your local dealer for replacement filters.

1. Open front panel on unit.
2. Pull filters down to remove.
3. Vacuum filters.
4. Clean with warm water.
5. Shake filter to remove excess water and dry thoroughly.
6. Replace filter by sliding filter behind front grille until filter snaps in place.
7. Close front panel on unit.

### ⚠ CAUTION

#### EQUIPMENT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage.

When cleaning the front panel, do not use water hotter than 105°F (40.56°C) and do not pour water onto the fan coil. Do not use abrasive or petroleum based cleaners as they may damage the front panel.

### Indoor Unit Front Panel

To clean the front panel on the indoor unit, wipe the outside with a soft, dry cloth. If necessary, a mild liquid detergent can be applied and wiped off with a dry cloth.

### Preparing for Extended Shutdown Period

Clean the filters and reposition them in the unit. Operate the unit in Fan only mode for 12 hours to dry all internal parts.

Turn main power supply off and remove batteries from the remote control.

### System Operation Recommendations

The items outlined in the following list will help to assure proper system operation:

- Replace both remote control batteries at the same time.
- Point the remote control toward the unit display panel when transmitting a command.
- Keep doors and windows closed while unit is operating.
- Contact an authorized service representative if a problem arises that cannot be easily resolved.
- Do not perform cleaning or maintenance activities while unit is on.
- Keep display panel on unit away from direct sunlight and heat as this may interfere with remote control transmissions.
- Do not block air intakes and outlets on the indoor or outdoor units.

### Energy Saving Recommendations

The following recommendations will add greater efficiency to the ductfree system:

- Select a comfortable thermostat setting and leave it at chosen setting. Avoid continually raising and lowering the setting.
- Keep unit filter clean. Frequent cleaning may be necessary depending on indoor air quality.
- Use drapes, curtains or shades to keep direct sunlight from heating room on very hot days.
- Do not obstruct air intake on front panel.
- Turn on air conditioning before indoor air becomes too uncomfortable.

### Troubleshooting

Refer to Table 2 before contacting your local dealer.

Table 1—Periodic Maintenance

INDOOR UNIT	EVERY MONTH	EVERY 6 MONTHS	EVERY YEAR
Clean Air Filter*	•		•
Change Remote Control Batteries		•	
OUTDOOR UNIT	EVERY MONTH	EVERY 6 MONTHS	EVERY YEAR
Clean Outdoor Coil from Outside		•	
Clean Outdoor Coil from Inside†			•
Blow Air Over Electric Parts†			•
Check Electric Connection Tightening†			•
Clean Fan Wheel†			•
Check Fan Tightening†			•
Clean Drain Pan†			•

\* Increase frequency in dusty zones.

† Maintenance to be carried out by qualified service personnel. Refer to the Installation Manual

Table 2—Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
<b>Unit/System Does Not Work</b>	<ul style="list-style-type: none"> <li>The circuit breaker has tripped or a fuse has blown.</li> <li>Power failure.</li> <li>Diagnostic lights illuminate.*</li> <li>Voltage is too low.</li> </ul>	<ul style="list-style-type: none"> <li>Reset the circuit breaker or replace the fuse with the specified replacement fuse.</li> <li>Restart operation when the power is restored.</li> <li>Call your service representative.</li> <li>Call your service representative.</li> </ul>
<b>Cooling is Not Working Properly</b>	<ul style="list-style-type: none"> <li>The filter is blocked with dust.</li> <li>Temperature is not set properly.</li> <li>A window or door is open.</li> <li>The outdoor unit is obstructed.</li> <li>The fan speed is too low.</li> <li>The operation mode is in Fan instead of Cool.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the air filter.</li> <li>Check the temperature and reset if necessary.</li> <li>Close the window or door.</li> <li>Remove the obstruction.</li> <li>Change the fan speed selection.</li> <li>Change the operating mode to Cool or reset the unit.</li> </ul>
<b>Heating is Not Working Properly</b>	<ul style="list-style-type: none"> <li>The filter is blocked with dust.</li> <li>Temperature is set too low.</li> <li>A window or door is open.</li> <li>The outdoor unit is obstructed.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the air filter.</li> <li>Check the temperature and reset if necessary.</li> <li>Close the window or door.</li> <li>Remove the obstruction.</li> </ul>
<b>Unit Stops During Operation</b>	<ul style="list-style-type: none"> <li>The Off timer is not operating correctly.</li> <li>Diagnostic lights illuminate.*</li> </ul>	<ul style="list-style-type: none"> <li>Restart the operating mode.</li> <li>Call your service representative.</li> </ul>

\* Diagnostic lights are a combination of lights that will illuminate in the display area on the unit. They are a combination of the lights you see during normal operation.