

4-WAYS CASSETTE TYPE AIR CONDITIONERS
SPLIT SYSTEMS, AIR-TO-AIR, HEAT PUMP

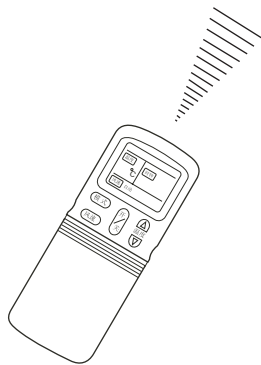
USER'S MANUAL

“COMMERCIAL” MODELS WITH R410A



R410A

HTFI 351 GR
HTFI 531 GR



HTBI 711 GR
HTBI 1061 GR
HTBI 1221 GR

HOKKAIDO

WARNING!
PLEASE READ CAREFULLY THIS MANUAL BEFORE OPERATING YOUR NEW AIR CONDITIONER

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Outline of specific features

INFRARED REMOTE CONTROLLER

All available functions of the air conditioner must be set using the infrared remote controller, whose LCD panel shows immediately the operating parameters.

ON TIMER / OFF TIMER

ON Timer, allows to program the air conditioner start within 24 hours, by 10 minutes steps.

OFF Timer, allows to program the air conditioner stop within 24 hours, by 10 minutes steps.

The air conditioner start and stop may also be programmed in sequence, within 24 hours.

DRY FUNCTION

When "DRY" function is selected, the air conditioner strongly reduces humidity inside the room, and also keeps the room temperature at a constant value.

ADVANCED CONTROL FOR INDOOR UNIT FAN

Thermostatic stops. In Heating mode, when set temperature has been reached inside the room, the compressor stops and the indoor fan speed is lowered to avoid cold drafts.

Hot Keep. At the beginning of operation in Heating mode, the indoor fan will start only 5 minutes later, i.e. when the temperature of indoor heat exchanger is adequate.

MICROCOMPUTER CONTROLLED DEFROSTING FUNCTION (HEATING MODE)

The microcomputer on printed circuit board can monitor all decreases in heating power of the air conditioner caused by frosting on outdoor heat exchanger, and inputs the signal for automatic defrosting; a LED lights up when this function is activated.

THERMOSTAT UNDER MICROCOMPUTER CONTROL

The thermostat being controlled by microcomputer allows remarkable energy saving and provides more comfort, as the room temperature is checked with the greatest precision.

INDOOR FAN AUTOMATIC SPEED CONTROL

The airflow from the Indoor Unit can be controlled step by step, on the basis of the difference between the room temperature and the set temperature. This allows to reduce the lapse of time needed to reach the desired temperature both in Cooling and in Heating mode, by treating the appropriate air volumes.

GENERAL INFORMATION

MOTORIZED LOUVERS FOR AIRFLOW DIRECTION

The flaps can be controlled directly by the remote controller so as to reach your desired position.

- “**SWING**”, the flaps move up and down continuously, thus increasing air circulation inside the room.

AUTORESTART AFTER A POWER FAILURE

- When a power failure occurs during operation, the air conditioner stops immediately.
- When power is restored, OPERATION lamp starts blinking.
- In particular, the air conditioner will restart automatically after 3 minutes have elapsed since power is restored. This means that it is not required to press ON/OFF button on the remote controller. The settings will be the same as before the blackout.

DIAGNOSTIC AND PROTECTIVE FUNCTIONS

Shown by codified flashing of LED indicators on the Indoor Unit, they allow to diagnose in a quite precise way the main malfunctions which may concern the air conditioner.

3-minutes' delay protection: There is a protective control of the Outdoor Unit, to prevent compressor's damages after stops. This control is effective in case of malfunction, power failure, turning off the system, etc. and it does not allow Outdoor Unit to restart before 3 minutes have elapsed since the Unit stopped. During this time, Indoor Unit cannot run.

Recommended operating conditions

In order to obtain the Unit's best performances, it is recommended its use under the following conditions:

COOLING OPERATION	Outdoor temperature:	21 to 43°C
	Room temperature:	17 to 32°C
	CAUTION: Room relative humidity should be less than 80%. If the air conditioner operates beyond this limit, the surface of the heat exchanger could get covered with frost.	
HEATING OPERATION	Outdoor temperature:	-5 to 24°C
	Room temperature:	0 to 30°C
DRY OPERATION	Outdoor temperature:	11 to 43°C
	Room temperature:	17 to 30°C

Use of the air conditioner out of the above mentioned temperature ranges could cause the intervention of built-in protective functions consequently stopping the system operation.

NOTE: If the Unit operates in rooms which are saturated with oil vapors or volatile matters, harmful substances could coat and clog the Indoor Unit's heat exchanger. Besides, scalings of saltiness could form on the Outdoor Units installed in sea-surroundings; if not removed, they will damage the Units in a very short time. In both cases, please contact the Technical Service to require frequent maintenance.

SAFETY PRECAUTIONS

Before starting the air conditioner, please read carefully the information in this “USER’S MANUAL”. The User’s Manual contains very important suggestions related to installation, operation and maintenance of the air conditioner and concerning your personal safety.

The Manufacturer accept no responsibility for the damages that may arise due to non-observance of the instructions listed in this “USER’S MANUAL”.

Disposal of an old air conditioner

Before disposing an old air conditioner, please make sure it is inoperative and carry out the disposal by adopting all safety precautions. Unplug it from the power line in order to avoid risks of electric shock.

Please remember that an air conditioner contains refrigerating fluid, requiring specialized waste disposal. The valuable materials contained in the air conditioner can be recycled. Contact your local Waste Disposal Center for adequate disposal or contact your Dealer for any question.

Please make sure that piping of your air conditioner does not get damaged before being picked up by the relevant Waste Disposal Center. You can contribute to the protection of the environment by adopting an appropriate anti-pollution method of disposal.

Disposal of the packaging of your new air conditioner

All the packaging materials used in the package of your new air conditioner can be disposed without any danger for the environment.

The cardboard box may be broken or cut into small pieces and given to a Waste Paper Disposal Service. The wrapping bag made of polyethylene and the polyethylene foam pads contain no fluorochloric hydrocarbon.

All these valuable materials may be taken to a Waste Collecting Center and used again after adequate recycling.

Consult your local Authorities for the name and address of the Waste Materials Collecting Centers and Waste Paper Disposal Services nearest to your house.

General warnings for safety

- Do not operate damaged air conditioners. In case of doubt, contact your Dealer.
- Use of the air conditioner must be carried out in strict compliance with the instructions listed in this “USER’S MANUAL”.
- Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the piping with sharp or pointed objects, by crushing or twisting the tubes or scraping off the surfaces’ coatings. If the refrigerant spurts out and gets into eyes, this may result in serious injuries.
- Do not obstruct or cover the ventilation grille of the air conditioner. Do not put fingers nor insert objects into the inlet/outlet vent or into the motorized louver.
- Do not allow children to play with the air conditioner. Children should be never allowed to sit on the Outdoor Unit.
- The appliance is not intended for children and disabled people. They must not operate the air conditioner without supervision.
- Electrical works must be carried out according to the local laws. If the power cable is damaged, it must be replaced by the Manufacturer or by qualified Personnel. Size of power cables and connecting wires must be adequate to the characteristics of the air conditioner (current values and power input values).
- If fuses are blown, they must be replaced with new fuses of the same type and size.
- After installation, power plug should be easily reachable.
- Exhausted batteries (infrared remote controller) should be properly disposed.
- Always remember to unplug the air conditioner before opening the inlet grille. Never try to unplug the air conditioner by pulling off the power cable. Always grip the power plug firmly and pull it straight out from the power socket.

SAFETY PRECAUTIONS

- **Strictly observe the instructions provided in this Manual.**
- **The air conditioning system contains in its refrigerant circuit the R410A gas under pressure. Never disconnect refrigerant pipes or connection joints.**
- **Never perform any handling on Outdoor Unit service valves or on Indoor Unit's unions.**
- **Keep this Manual in a safe place easy to reach at any time for convenient reference.**
- **In case the air conditioner is transferred and reinstalled, this User's Manual should always be attached to the appliance.**

SAFETY INSTRUCTIONS

- Please read carefully the following Safety Instructions before operating the air conditioner.
- A strict observance of the Instructions indicated on this "USER'S MANUAL" will prevent personal hurt and incidents to the User. Moreover, correct operation and long life of the system will be ensured.
- Depending on the seriousness of potential risks and damages, the reported Instructions are classified in two types: "WARNING" and "CAUTION". A strict observance of the Instructions is required to guarantee your personal safety and the safety of the environments where Units have been installed.
- The following Instructions are related to the air conditioner's installation. They have been reported in this "USER'S MANUAL" just to allow the User to check that installation is or has been properly carried out. If an improper installation - not corresponding to the Instructions - is verified, please contact the Dealer or the Authorized Technical Service.

The User must never attempt to repair, install or perform special maintenance by himself.

Key to symbols



WARNING

This symbol points out the risk of serious injury or death.



CAUTION

This symbol points out the risk of injury or damage to the property.



Prohibition. Action or procedure not allowed, with serious effects for people or objects.






Obligation. Compulsory action or procedure. The missed observance could bring to serious effects for people or objects.






SAFETY PRECAUTIONS



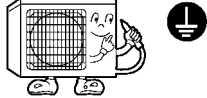

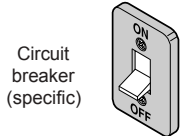

Installation

Never try to install this Unit by yourself, i.e. without the support of Technical Personnel. Never try to repair the Unit by yourself. The Unit's components can be reached only by opening or removing the covering panels, and this involves exposure to high voltage. Even by disconnecting power supply, it is not always possible to avoid the risk of electric shocks.

 WARNING	
<ul style="list-style-type: none"> • Please always contact the Dealer or Authorized Service Center for installation. Never attempt to install the air conditioner by yourself, because improper installation could cause electric shock, injuries, water leakage or fire. 	
<ul style="list-style-type: none"> • Please always contact the Dealer or the Authorized Service Center for any servicing operation or special maintenance. Never try to repair or carry out special maintenance by yourself. Improper repair or maintenance could cause electric shock, injuries, water leakage or fire. 	








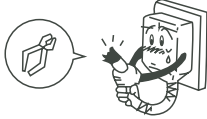

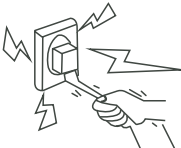

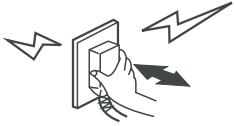

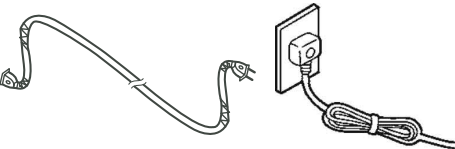







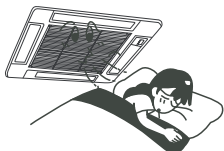



Confirm that installation has been carried out according to the following prescriptions:

 CAUTION	
<ul style="list-style-type: none"> • When installing, all possible countermeasures must be taken to avoid refrigerant gas leaks. If there is high concentration of refrigerant gas in the room, oxygen lack may occur. 	
<ul style="list-style-type: none"> • Do not install the air conditioner near burners, heat sources or flammable gas. This is to avoid the risk of malfunctioning, fire or explosion. 	
<ul style="list-style-type: none"> • Ensure that a circuit breaker has been installed on the power supply line above the air conditioner, to avoid the risk of electric shock. 	
<ul style="list-style-type: none"> • When installing in a small room, countermeasures should be taken in case a refrigerant leak exceeds the proper range. Otherwise, it will cause people asphyxia. 	

 CAUTION	
<ul style="list-style-type: none"> • Ensure that drain hose and drain pipe installation has been correctly carried out. Incorrect installation or maintenance will cause water leakage. 	
<ul style="list-style-type: none"> • Ensure that Indoor and Outdoor's Units have been properly grounded. Defective grounding could cause electric shock. 	 
<ul style="list-style-type: none"> • This kind of appliance needs a specific circuit breaker with proper protective devices against overcurrents and short circuits (fuses or automatic switches). 	 

SAFETY PRECAUTIONS

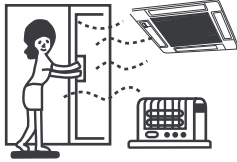
Always observe the operating precautions listed in the following tables. In this way, correct operation and safeguard of people, animals and objects inside air-conditioned environments will be ensured.

 WARNING	
<p>Use the correct voltage and frequency for power supply.</p> <p>220 ÷ 240V, 50Hz</p>  	<p>Do not insert the air conditioner's plug into multiple sockets or into sockets to which other appliances are connected. Do not use plug adapters.</p>  
<p>Fully insert the plug into the power socket and make sure the connection is secure and without play. Otherwise, sparks and fire may occur.</p>  	<p>Do not put heavy objects on the power supply cord. Take care not to damage it. Do not use faulty or damaged power supply cords.</p>  
<p>Do not pull out the plug from the power socket by drawing the power cord. Damaging to the power cord, to the plug or to the socket may occur, and this could result in electric shock or fire generation.</p>  	<p>Never turn off the air conditioner by pulling the power supply plug out of the socket. This could cause electric shock or fire. Always press the ON/OFF button on remote controller.</p>  
<p>Do not use extension cords. Do not use rolled power supply cords.</p>  	<p>Never touch switches, sockets or power supply plugs with wet hands. This could cause electric shock.</p>  
<p>If you smell something burning, immediately turn off the air conditioner, switch the circuit breaker to "OFF" or "0" and contact the Authorized Technical Assistance.</p>  	<p>Do not insert any objects into the air inlet or outlet of Indoor and Outdoor's Units. Even if fans are stopped, they could automatically start all at once.</p>  
<p>You should avoid to expose your body directly to cool air for a long time. This may cause you health problems.</p>  	<p>Do not direct the airflow towards infants, aged or disabled people.</p>  

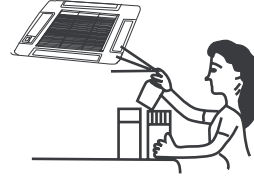
SAFETY PRECAUTIONS

⚠ CAUTION

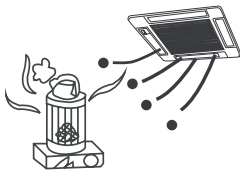
Ventilation should be operated when using at the same time the air conditioner and gas burners. Insufficient ventilation will cause lack of oxygen.



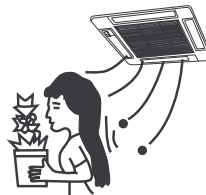
Do not use sprayers near the air conditioner and do not spray anything towards the appliance.



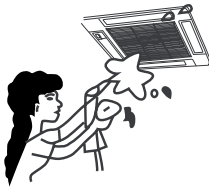
Do not place burners near the airflow of air conditioner.



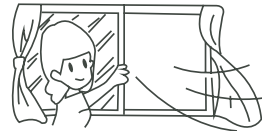
Do not expose plants or animals to the direct airflow of the air conditioner.



To avoid the risk of electric shock, do not sprinkle water or other liquid on Indoor Unit. Do not clean the air conditioner by water spurts.



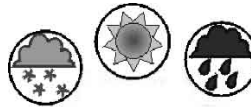
Ventilate the room regularly while the air conditioner is operating. Fail to follow this advice could result in lack of oxygen inside the room.



Do not expose food, plants, animals, precision devices or works of art to the direct airflow of the air conditioner.



For proper performance, operate the air conditioner under the temperature and humidity conditions indicated in this Manual (see page 4, "RECOMMENDED OPERATING CONDITIONS"). If the Unit operates beyond these conditions, malfunctions may occur or dew may drip from the Indoor Unit.



When necessary, replace fuses with fuses of the same type and size. Never use a piece of iron or copper instead of the proper fuse, as it could result in a malfunction or in a fire accident.



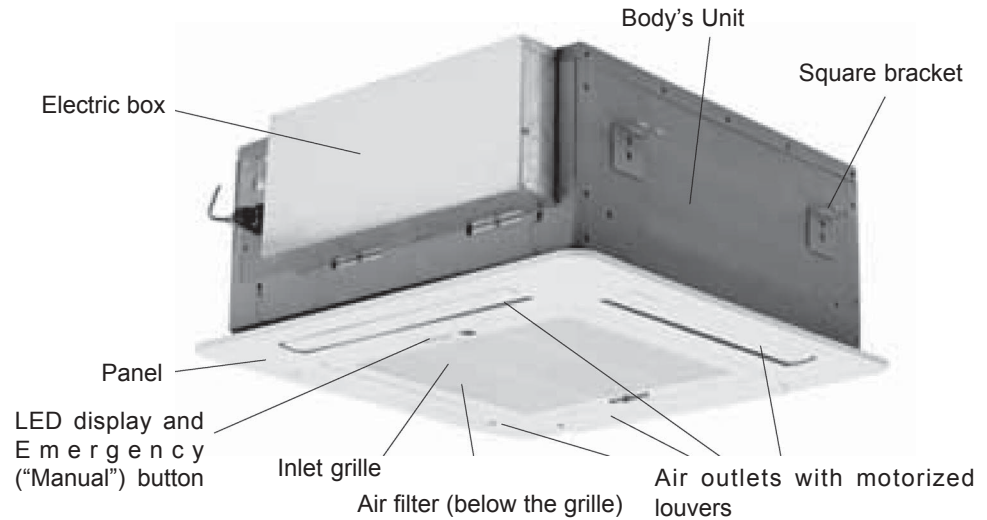
Do not place anything in front of the air conditioner nor obstruct the air outlet.



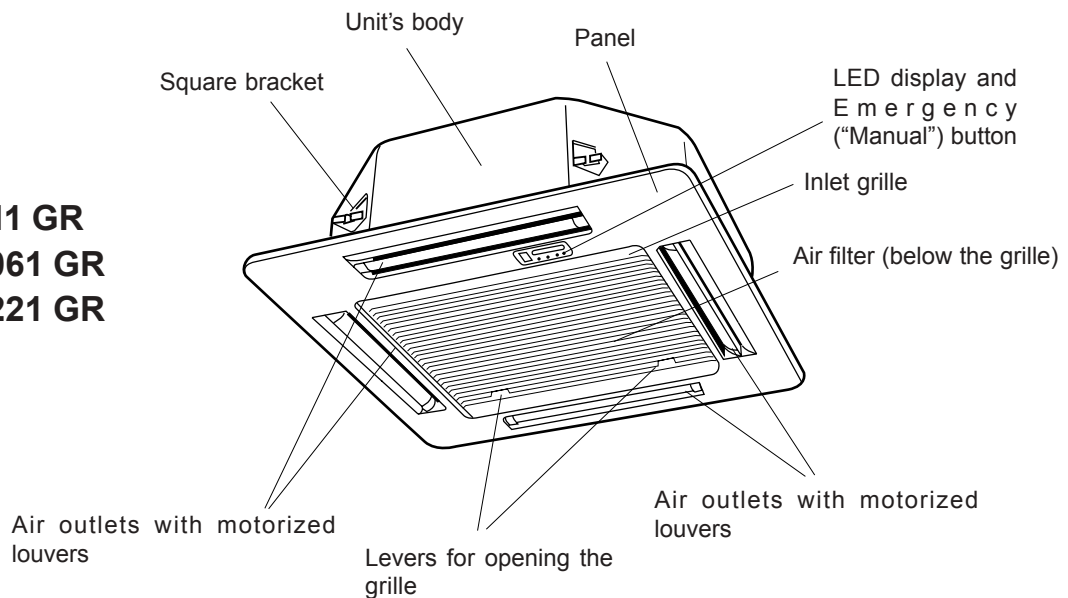
Do not touch the heat exchangers' metal flaps on Indoor and Outdoor Units. This could cause hurts due to the sharp shape of the flaps. Take care of this especially when removing the air inlet panel and the air filter.



INDOOR UNITS' OUTLINE



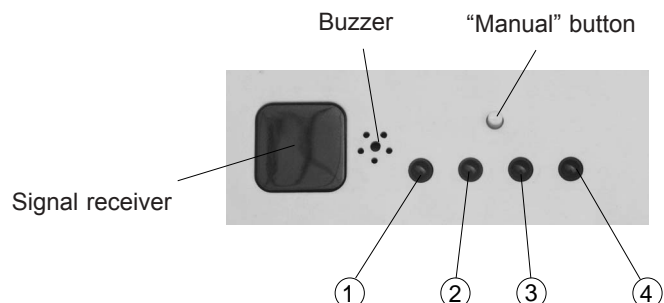
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LED Display (for all Models)

- ① OPERATION LED (green)
- ② TIMER LED (green)
- ③ DEF/FAN LED (red)
- ④ ALARM LED (red)



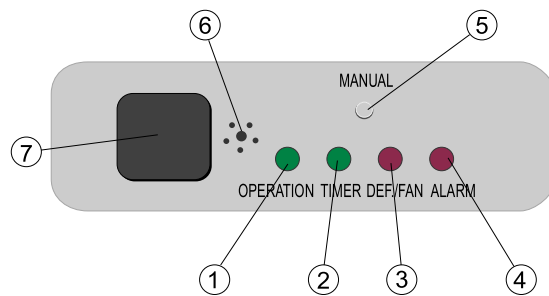
(For further details, see the following page)

NOTE: All the figures have the only purpose to show to the User how to operate for a correct use of the air conditioner. Therefore, they may be lightly different from the real products.

LED INDICATORS ON INDOOR UNIT

The electronics of the air conditioner is able to diagnose eventual malfunctions which can be interpreted by the 4 LED indicators on the Indoor Units' frontal panel. On the basis of the state of each indicator (ON, flashing, OFF), the Authorized Technical Service is able to detect the common types of anomaly. Please refer to Chapter 5 of this Manual to make a distinction between real anomalies and seeming malfunctions of the air conditioner.

- ① OPERATION LED (Green)
- ② TIMER LED (Green)
- ③ DEF/FAN LED (Red)
- ④ ALARM LED (Red)



1) OPERATION LED

When connecting the Unit to the power source, the LED starts flashing. During the air conditioner's operation, it stops flashing and lights up.

2) TIMER LED

It lights up when TIMER function is selected (air conditioner's programmed start and/or stop).

3) DEF/FAN (DEFROST/PREHEATING) LED

- In Heating mode, if a layer of frost forms on outdoor heat exchanger, defrosting automatically starts and the LED lights up.
- The LED also lights up when indoor heat exchanger's Preheating function is activated. This occurs in Heating mode, in order to avoid the emission of air at low temperature (prevention function against cold drafts).

4) ALARM LED

The LED flashes when the level in the water condensate pan exceeds the operation limit.

This also makes the compressor stop, till the condensate drain pump has eliminated the surplus water.

5) MANUAL button

To start the air conditioner when the remote controller is not available.

6) Buzzer

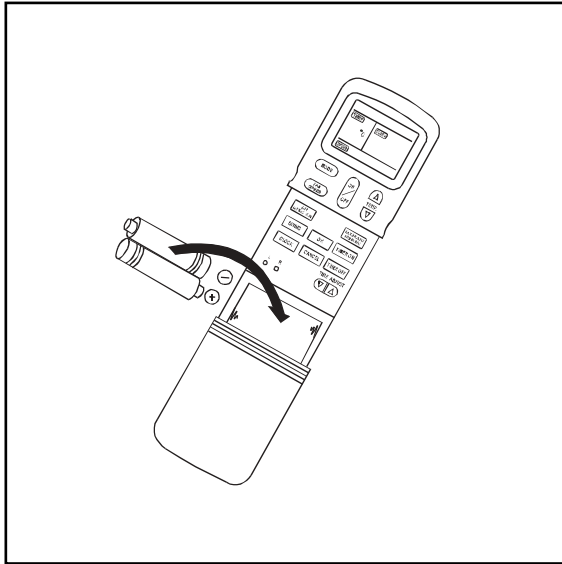
It emits a sound when a signal is received by the Indoor Unit.

7) Signal receiver

It permits to receive signals from the remote controller.

IR REMOTE CONTROLLER

How to insert and/or replace remote controller's batteries



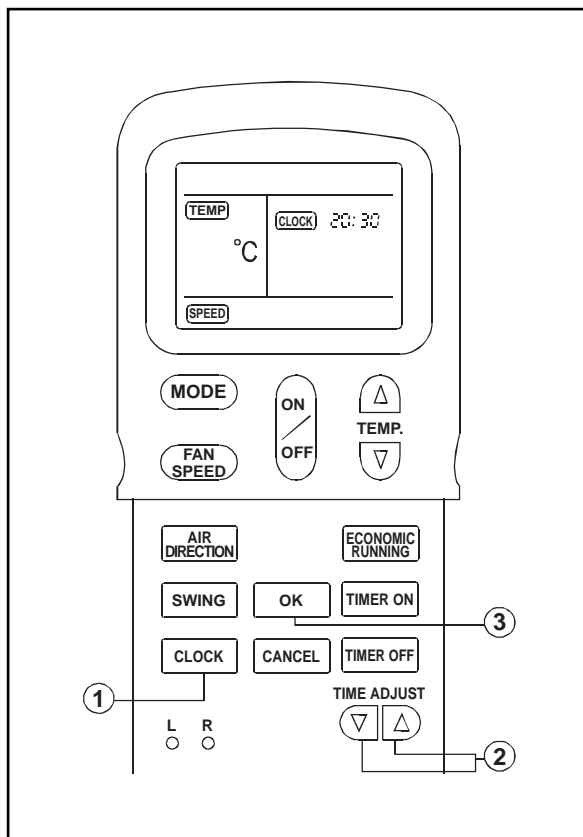
For the remote controller, 2 “AAA” type batteries (1,5V) must be used.

- Remove the front cover of the batteries' box by sliding it in the arrows' direction (see picture).
- Replace used batteries with new ones. Pay attention to insert them correctly according to polarities.
- After replacing the batteries, press the “RESET” button on the remote controller.
- Before sliding back the front cover, confirm that the CLOCK panel on the remote controller displays “0:00” with flashing colon.

After replacing batteries, set the remote controller clock (see below).

NOTE: Please use only new batteries of the same brand and type. If you are not going to use the air conditioner for a long period, remove the batteries from the remote controller because it could get damaged by acid leakage. The average batteries' life is approximately one year. Replace the batteries when there is no receiving beep from the Indoor Unit or if the transmission indicator on the remote controller fails to light.

Setting or adjusting the clock



Before operating the air conditioner, set the clock on the remote controller as explained in this section.

The clock panel on the remote controller will display the time regardless of whether the air conditioner is in use or not.

INITIAL SETTING OF THE CLOCK

When batteries are inserted in the remote controller, the clock panel will display “0:00” and the colon will flash.

1. Press the “TIME ADJUST” button (Δ : forward and ∇ : backward) to set time.
Each time you push the button, the displayed time is changed forward or backward by 1 minute.
2. Press the “OK” button to confirm the current time setting.
3. Press the “CLOCK” button to change current time setting.

Buttons' outline

"MODE" BUTTON

Push this button to select operation modes. Each time the button is pressed, one of the following modes will be selected in sequence:

AUTO → COOL → DRY → HEAT
↑ FAN

"FAN SPEED" BUTTON

This button is used to select fan speed. Each time the button is pressed, fan speed indicator changes as follows:

AUTO → LOW → MED → HIGH

"ON/OFF" BUTTON

Push the button to start operation. Push the button again to stop operation.

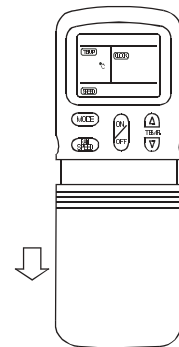
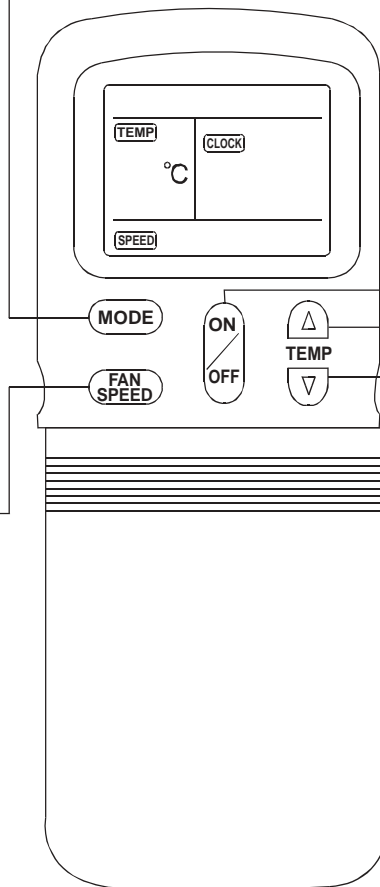
"TEMP" BUTTONS

△ Press this button to raise set point temperature up to 30°C.

▽ Press this button to decrease set point temperature down to 17°C.

Temperature can be set by steps of ± 1°C.

Slide the cover to open



IR REMOTE CONTROLLER

"AIR DIRECTION" BUTTON

Press this button to change the louvers' angle for vertical airflow direction. This function is not available on these Models.

"SWING" BUTTON

Press this button to make the louvers automatically swing up and down. Push the button again to stop.

"OK" BUTTON

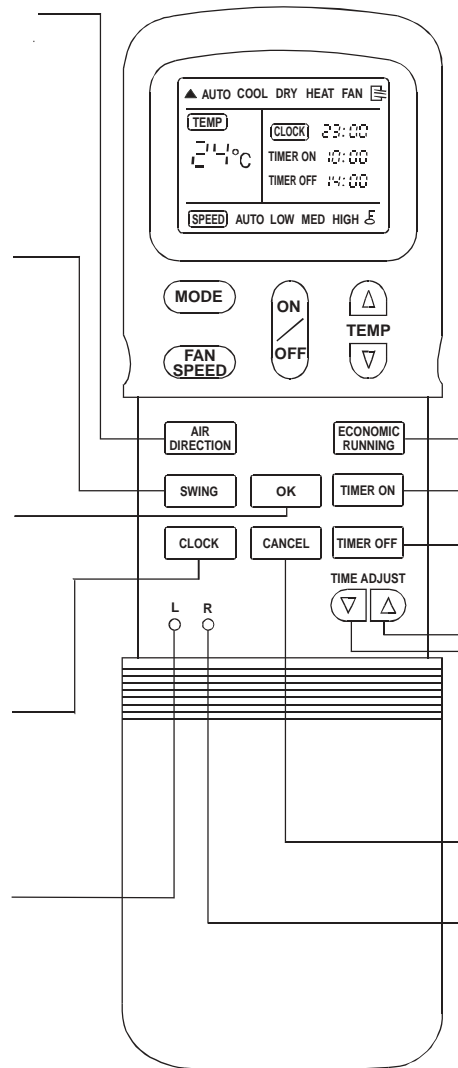
Press this button to confirm TIMER settings.

"CLOCK" BUTTON

Press this button to access to current time setting.

"LOCK" BUTTON

Press this button to lock all current settings. Press the same button again when you want to disable the lock mode.



"ECONOMIC RUNNING" BUTTON

Press this button to select "Energy Saving" mode. This function is not available on these Models.

"ON/OFF TIMER" BUTTONS

Push "TIMER ON" button to set the air conditioner's start time. Push "TIMER OFF" button to set the air conditioner's stop time.

"TIME ADJUST" BUTTONS

Press these buttons to set current time and TIMER ON/OFF time.

"CANCEL" BUTTON

Press this button to cancel the current settings of TIMER function.

"RESET" BUTTON

Press this button to cancel all current settings and restore the remote controller settings to factory defaults (see note below).

NOTE:

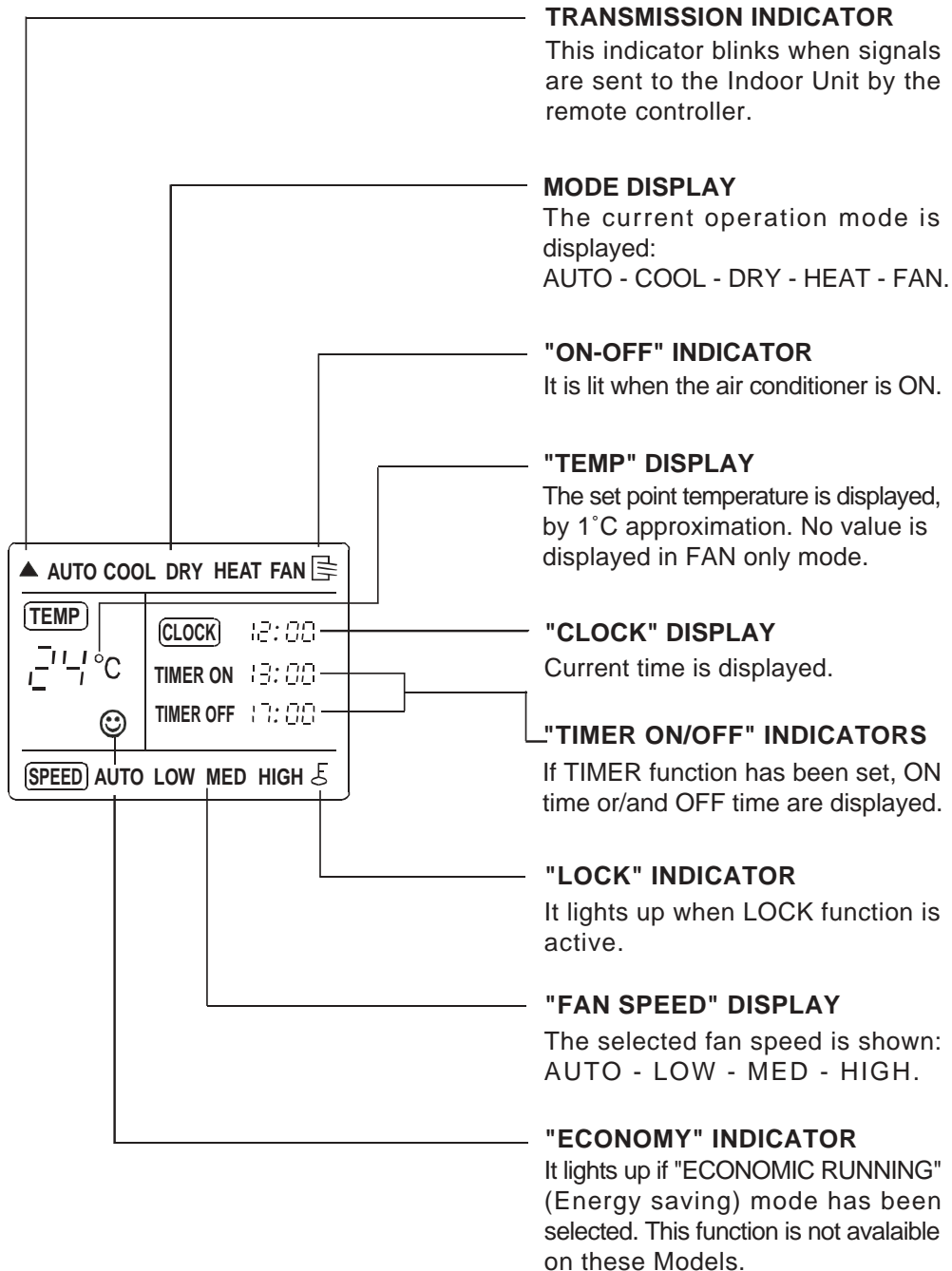
If you press "RESET" button, the clock sign on the panel will show "0:00" and the colon will flash to indicate that current time has to be set again.

TIMER settings have been erased, too, and a new setting is required to activate TIMER function.

The LCD panel will also display "AUTO" as operating mode, and "AUTO" as selected fan speed. The set point temperature will be 24°C.

IR REMOTE CONTROLLER

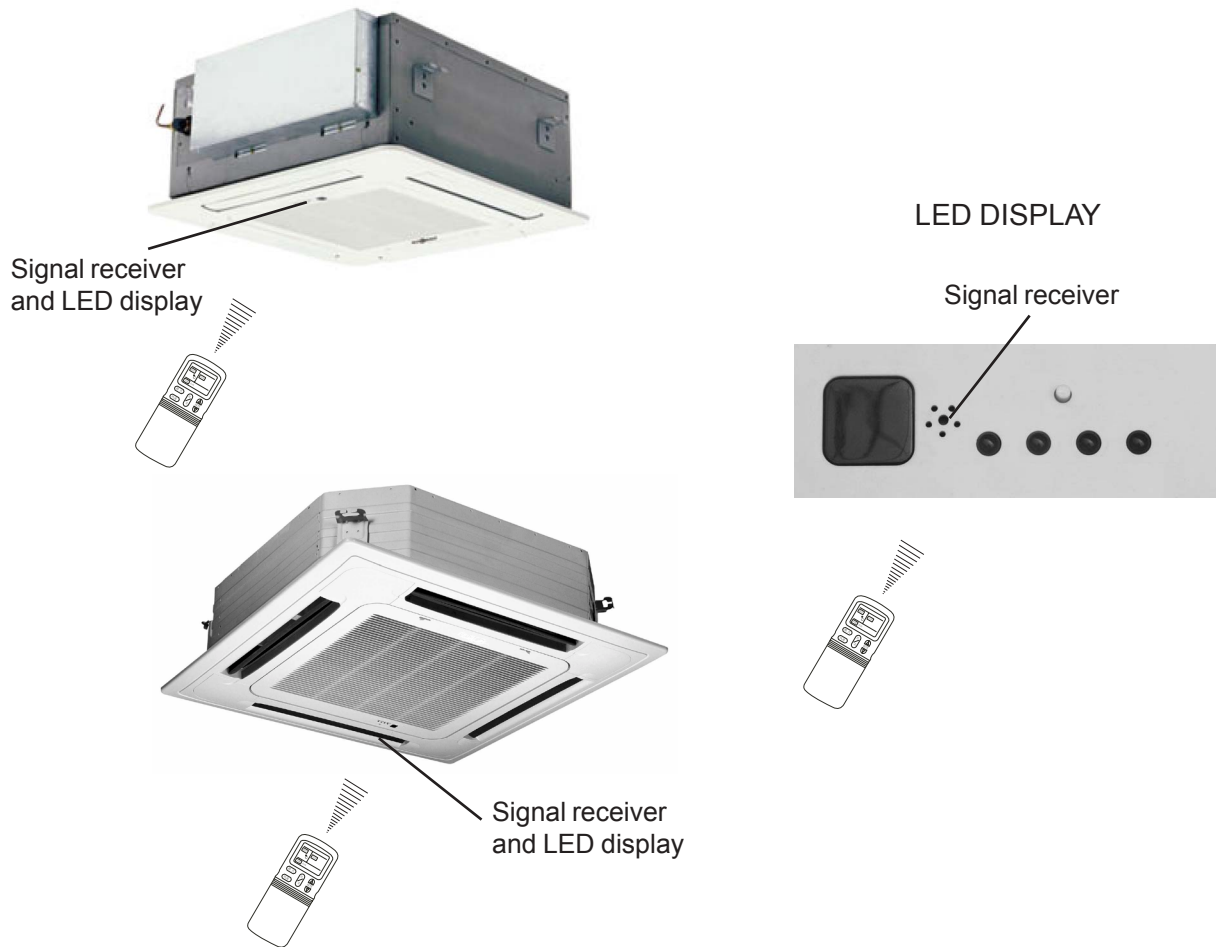
LCD panel outline



In the illustration above, all possible indications provided by the display are described for sake of clarity. During operation, only the relevant information will be displayed on the remote controller LCD panel.

IR REMOTE CONTROLLER

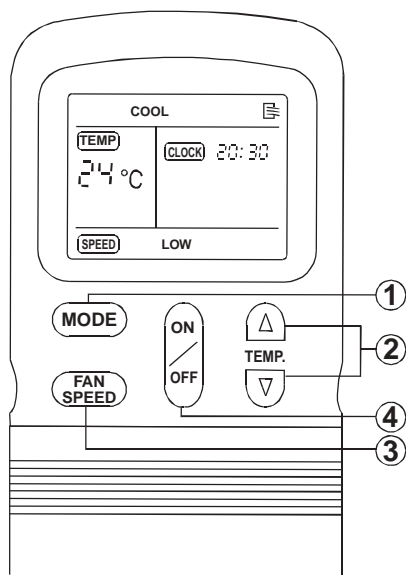
Use of remote controller



Maximum allowed distance: 7 meters

- 1)** Make sure the 2 batteries ("AAA" type, 1,5V) are fully charged and correctly fitted in the special slot on the remote controller, by respecting the polarity marked on the remote controller itself. The batteries' average life is of about 1 year.
- 2)** Use the remote controller by turning it towards the Indoor Unit at no more than 7 meters from the Unit itself.
- 3)** The remote controller will not work properly if curtains, doors or other objects between the remote controller and the infrared receiver on the Indoor Unit do not allow the signal transmission.
- 4)** If the remote controller is placed sideways as regards to the signal receiver, it will operate within a maximum angle of 30° on the right or on the left from the receiver. If the remote controller is fixed on its wall bearing, it will work within a side distance of 0,5 metres on the right or on the left from the receiver.
- 5)** If the infrared receiver on Indoor Unit is exposed to direct sunlight, the remote controller (and consequently the air conditioner) will not work properly.
- 6)** In order to avoid interferences, keep the remote controller at least 1 meter away from Hi-Fi, TV, radio and in general from appliances generating electromagnetic fields.
- 7)** Do not wet the remote controller and prevent any liquid from falling into it.
- 8)** Handle the remote controller with care and pay attention not to drop it nor place heavy objects on it. Keep it far away from heat sources such as heaters, cooking stoves, electric blankets, etc.

HEAT, COOL, FAN MODES



To start operation:

Connect the Unit to the power source: "OPERATION" lamp on Indoor Unit will start flashing.

1. Select your desired operating mode by pressing "MODE" button:
 - COOL
 - HEAT
 - FAN
2. Select your desired temperature through the "TEMP" buttons.
3. Select your desired speed for Indoor Unit's fan by pressing "FAN SPEED" button:
 - AUTO
 - LOW
 - MED
 - HIGH
4. Press the "ON/OFF" button to start the air conditioner: now the OPERATION lamp is fully on.

NOTE FOR THE USER:

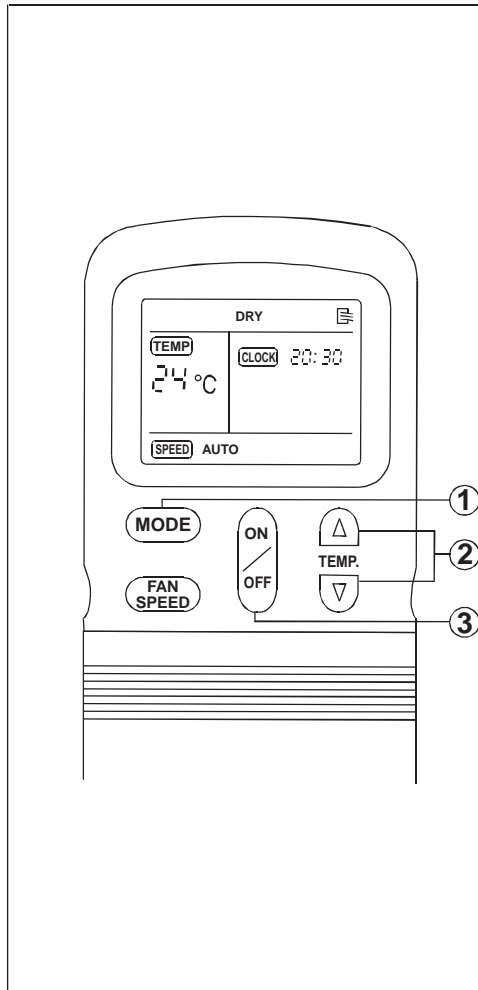
- In case of close stops/starts, the air conditioner does not immediately start operating, but 3 minutes elapse because of a protective function for the compressor.

To stop operation:

Press the "ON/OFF" button on the remote controller to stop the air conditioner.

WARNING: During operation in FAN only mode, room temperature control is not available. So you should not follow indications given in paragraph "2" (see above).

DRY MODE



To start operation:

Connect the Unit to the power source: "OPERATION" LED on Indoor Unit will start flashing.

1. Select "DRY" mode by pressing "MODE" button.
2. Select your desired temperature through "TEMP" buttons.
 - In "DRY" mode, the indoor fan speed is set to "AUTO" and no other choice is available.
3. Press "ON/OFF" button to start the air conditioner: now "OPERATION" LED on Indoor Unit is fully on.

NOTE FOR THE USER:

- In case of close stops/starts, the air conditioner does not immediately start operating, but 3 minutes elapse because of a protective function for the compressor.

To stop operation:

Press "ON/OFF" button on the remote controller to stop the air conditioner.

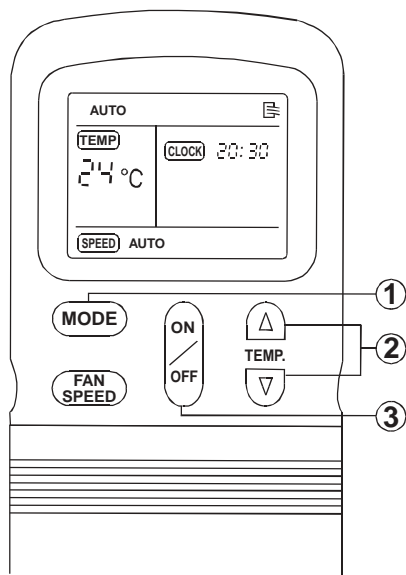
- In DRY mode, the air conditioner will automatically select the operation mode according to the difference between set temperature and room temperature.

• OPERATION IN DRY MODE:

It consists of Cooling operation at slow fan speed. In this way, air remains longer in contact with the Indoor Unit's exchanger before being blown out, increasing the dehumidifying capacity of the air conditioner.

AUTO MODE

When "AUTO" mode is selected, the air conditioner starts in the most appropriate operating mode, on the basis of room temperature.



To start operation:

Connect the Unit to the power source: "OPERATION" LED on Indoor Unit will start flashing.

1. Select "AUTO" mode by pressing "MODE" button.
2. Select your desired temperature through "TEMP" buttons.
3. Press "ON/OFF" button to start the air conditioner: now "OPERATION" LED on Indoor Unit is fully on.

NOTE FOR THE USER:

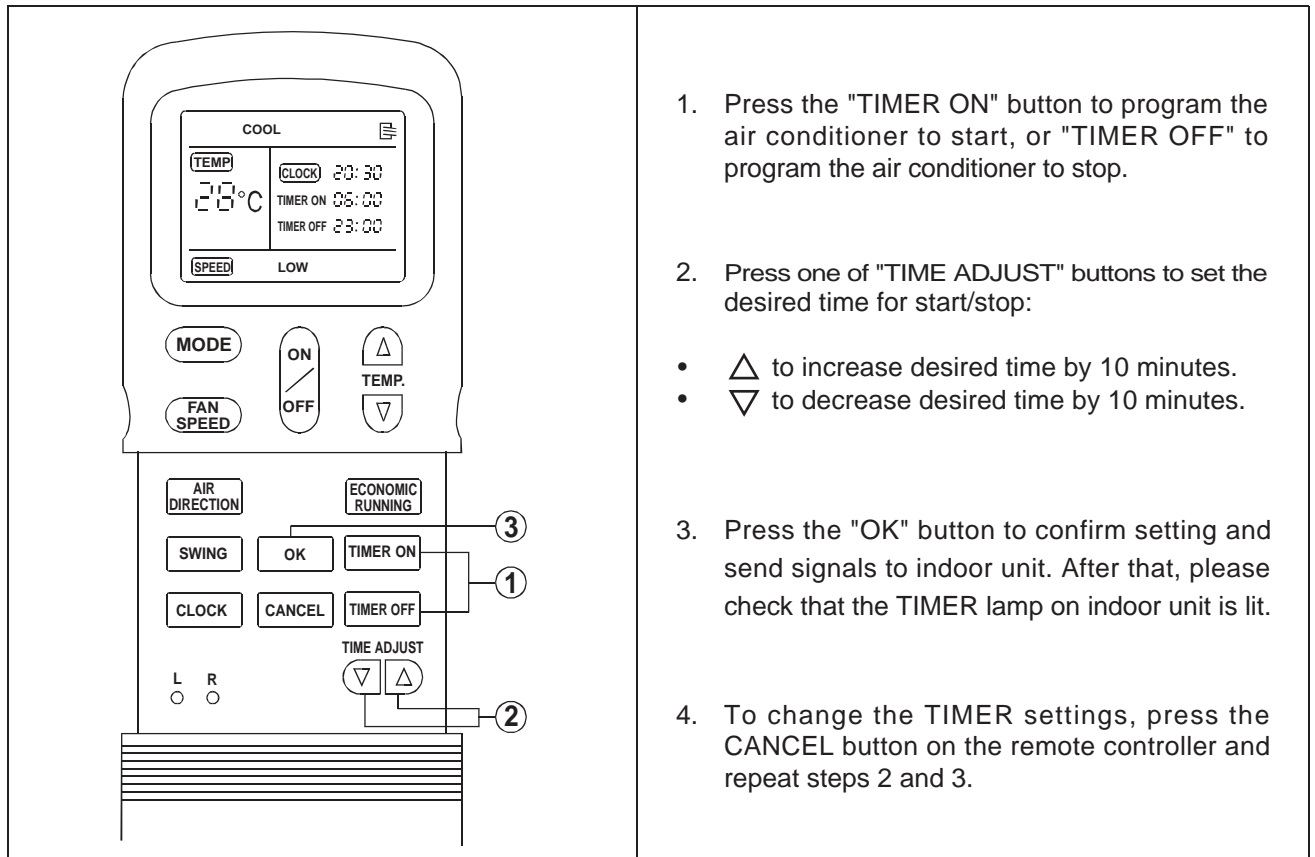
- In case of close stops/starts, the air conditioner does not immediately start operating, but 3 minutes elapse because of a protective function for the compressor.

To stop operation:

Press "ON/OFF" button on the remote controller to stop the air conditioner.

WARNING: During operation in "AUTO" mode, the indoor fan speed cannot be manually changed by the user. Actually, the indoor fan speed is automatically selected ("AUTO" is displayed on LCD panel).

TIMER FUNCTION



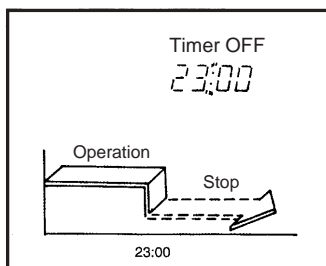
1. Press the "TIMER ON" button to program the air conditioner to start, or "TIMER OFF" to program the air conditioner to stop.
2. Press one of "TIME ADJUST" buttons to set the desired time for start/stop:
 - Δ to increase desired time by 10 minutes.
 - ∇ to decrease desired time by 10 minutes.
3. Press the "OK" button to confirm setting and send signals to indoor unit. After that, please check that the TIMER lamp on indoor unit is lit.
4. To change the TIMER settings, press the CANCEL button on the remote controller and repeat steps 2 and 3.

WARNING:

• When you select operation under TIMER function, the remote controller automatically transmits the signal to start or/and stop the Indoor Unit at foreseen time. If you want to be sure that these inputs are received by the Indoor Unit, you have to place the remote controller so that the signal may reach the infrared receiver on the Indoor Unit and verify that there are no obstacles that may hinder proper signal transmission.

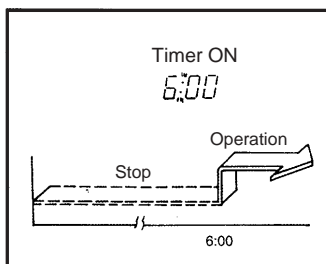
NOTE: TIMER setting is valid within 24 hours only, i.e. it is not possible to use this embedded function as a weekly timer.

• SOME EXAMPLES OF TIMER SETTINGS



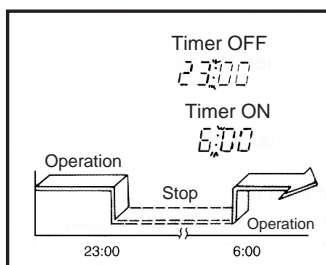
Programmed stop at 23:00

- 1) Press the "TIMER OFF" button
- 2) Press the "TIME ADJUST" (Δ ∇) buttons until 23:00 is displayed
- 3) Press the "OK" button



Programmed start at 06:00

- 1) Press the "TIMER ON" button
- 2) Press the "TIME ADJUST" (Δ ∇) buttons until 06:00 is displayed
- 3) Press the "OK" button



Programmed stop at 23:00 and restart at 06:00

- 1) Press the "TIMER OFF" button
- 2) Press the "TIME ADJUST" (Δ ∇) buttons until 23:00 is displayed
- 3) Press the "TIMER ON" button
- 4) Press the "TIME ADJUST" (Δ ∇) buttons until 06:00 is displayed
- 5) Press the "OK" button

ADJUSTING THE AIRFLOW DIRECTION

Vertical adjustment

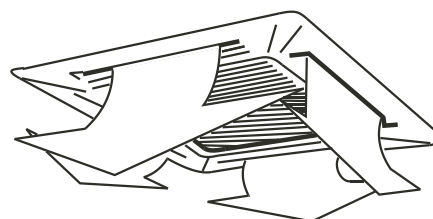
When pressing the ON/OFF button on the remote controller, the Units starts operating and automatically selects the best inclination for the motorized louver according to the set operation mode (Cool, Dry or Heat mode). It is possible to select the desired position for the motorized louver by pressing SWING button.

The recommended positions according to the different operation modes are shown in the Figures below.

Cool/Dry

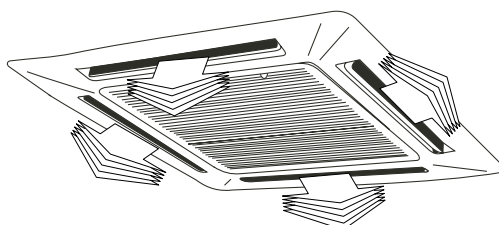


Heat



Automatic swinging

If you press SWING button once, the motorized louver will start swinging as it is shown in the Figure below.



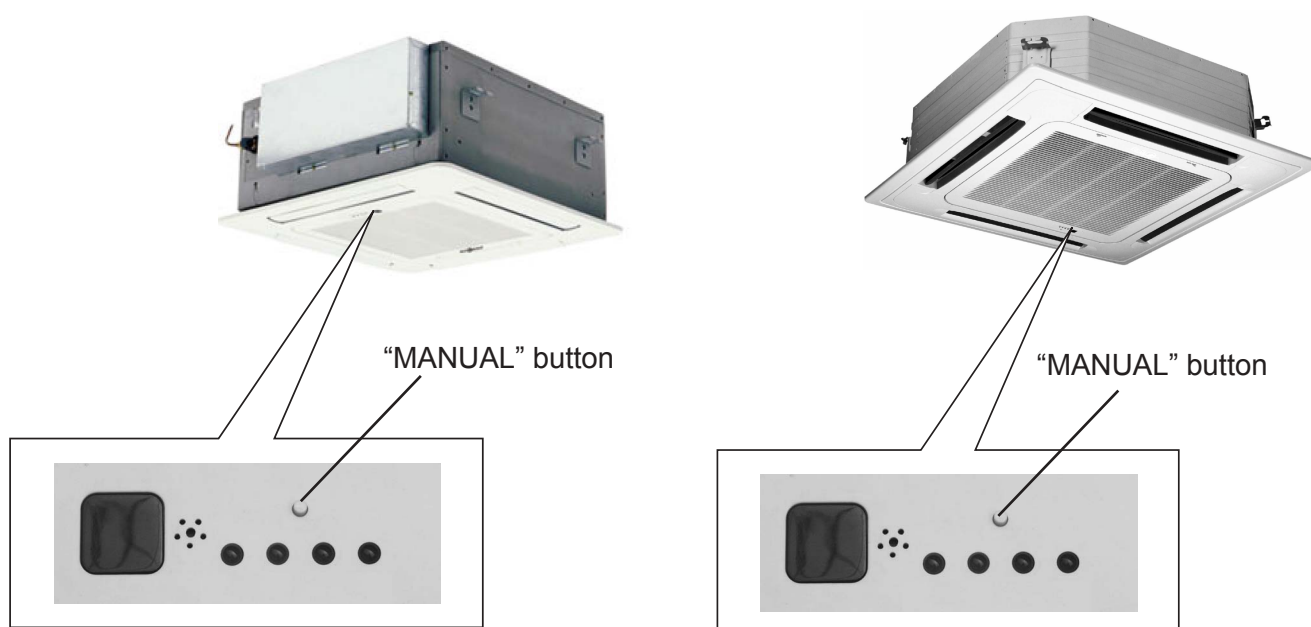
Storage of louver's position

If you press SWING button again, the motorized louver will stop to the position reached at that moment. This position will be kept in memory for next restart of the air conditioner.

NOTES

- When the Unit is stopped, the motorized louver automatically moves to the closing position.
- Never move the motorized louver by hand, but always use the remote controller. Moving it by hand may damage the control mechanism. In case the flaps do not move correctly, stop the Unit and restart it again after a few minutes.
- In Cool and Dry modes, the flaps should not be oriented downwards for a long time. Otherwise, condensate may form on the air outlet.

EMERGENCY OPERATION AND TEST SWITCH



OPERATION IN EMERGENCY MODE:

If you have lost the remote controller or its batteries are exhausted, the air conditioner can be started by pressing once "MANUAL" button on the frontal panel. The air conditioner will start operating in the emergency running "AUTO" mode.

During emergency running, signals transmitted by the remote controller can be received by Indoor Unit.

TESTING THE AIR CONDITIONER IN FORCED COOLING MODE

Press "MANUAL" button twice. "OPERATION" LED starts flashing. The air conditioner will start operating in forced COOL mode at HIGH fan speed for 30 minutes. Then, operation will switch to AUTO mode.

During the Test, signals transmitted by the remote controller will not be received by Indoor Unit.

NOTE: Do not use Test mode for normal operation.

End of operation in Emergency mode or in forced Cooling mode

Press "MANUAL" button twice during Emergency operation, or press "MANUAL" button once during Test mode: the air conditioner will stop.

Normal operation can be restored by the remote controller as usual.

Unit's cleaning

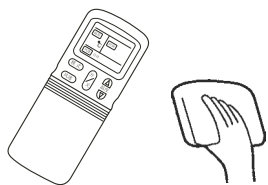


WARNING

Before starting any kind of ordinary maintenance:

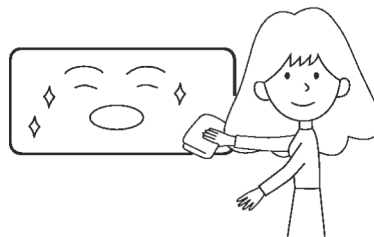
- 1 - Stop the appliance by pressing ON/OFF button on remote controller;
- 2 - Move the dedicated switch to "OFF" or "0" position;
- 3 - Pull out the plug from the power socket;
- 4 - To reach the Unit, please use a stepladder or other appropriate bearing strong enough to ensure your safety.

Cleaning the remote controller



Do not use water, but a dry cloth. Do not use products for glass cleaning, nor clothes soaked in detergents.

Cleaning the Indoor Unit



Use a dry and soft cloth. In case of need, dampen the cloth in water and neutral detergent, then wring well.

Never use any of the following products for cleaning



Benzine, paint solvents, polishing products, by-products of oil in general, etc. may damage the outside surfaces of Unit and cause deformations and scratches on the appliance and on the remote controller.



The use of very hot water (over 40°C) may discolour and/or deform the plastic parts.

NOTES:

if the appliance or the inlet grille are very dirty, clean them with a cloth soaked in tepid water and neutral detergent. Rinse in clean water and dry well. The presence of humidity on the inlet grille may cause electric shocks.

Never use any abrasive sponge for cleaning, to avoid scratching the Unit's surfaces.

If the grille is open or has been removed, do not touch the metallic flaps of the below heat exchanger, as the flaps are sharp and may hurt you.

Do not expose the grille or the Unit to direct sunlight, to avoid discolouring or deforming them.

Removing and cleaning the air filters

- 1** Open the frontal grille by seizing with the fingers the little levers inserted in the grille's body and slide them to the open position (towards the centre). Pull down the air inlet with the filter (Fig.1).
- 2** Pull down the grille till opening it by 45°, then push the grille and the filter upwards to detach them from the Unit's body (see Fig.2).
- 3** Clean the filter by using a vacuum cleaner or wash it with water. In case of washing with water, dry the filter in the shade and not under the rays of sunlight or by other heat sources.

- 1 If the cleaning is carried out with a vacuum cleaner, the filter's outside part must be oriented towards you.
- 2 If the cleaning is carried out with water, the filter's inside part must be oriented towards you (Fig.3).

- 4** Reinstall the filter. Attach correctly the filter by the special fixed joints.
- 5** Close the inlet grille.



After removing the filters, do not touch the metallic flaps of indoor heat exchanger, as they are sharp and may hurt you.

Do not operate the Unit without the air filters.

CLEAN THE AIR FILTERS EVERY 2 WEEKS

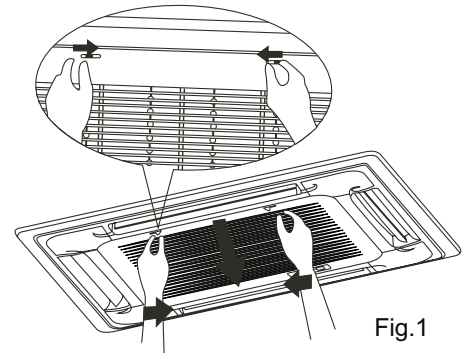


Fig.1

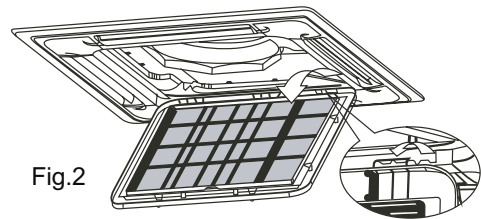


Fig.2

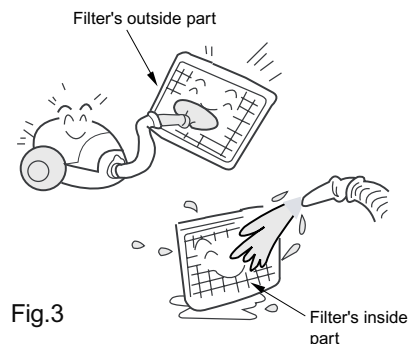


Fig.3

NOTE 1:

- Normally, it is not necessary to replace the filters: you only have to clean them at regular intervals. Replace the filters when the accumulated dirt is too hard to be removed.
- In case the air filters are damaged and need to be replaced, it is necessary to order them as spare parts: please contact the Retailer or the Authorized Technical Service.
- **IMPORTANT:** Never reinstall the filters on Indoor Unit in case they are damaged.

NOTE 2:

The filters must always be clean: if they are clogged with dust or other solid particles in general, the Cooling and Heating capacity of the air conditioner will be reduced. Moreover, the appliance will be noisier and will consume more electricity.

Normally, the cleaning must be carried out every 2 weeks.

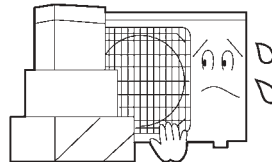
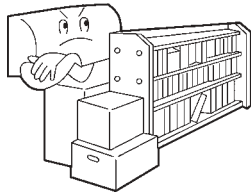
It is very important to clean the filters at regular intervals, by adjusting the latter to the conditions and use of the appliance. If the air conditioner is used for many hours a day in a dusty environment, it must be cleaned more often than another air conditioner used in less heavy conditions.

At the beginning of season

When restarting the air conditioner after a long time or at the beginning of the season, please carry out the following procedure:

1 Do not obstruct the air inlet and outlet

Check if any objects obstruct the airflow at the air inlet and outlet on Indoor and Outdoor Units.

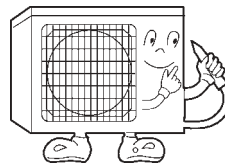


2 Check the Unit's fixing

Check the condition of fixing devices on Indoor and Outdoor Units, especially those in iron and on Outdoor Unit which are more subject to corrosion, so as to avoid their possible collapse.

3 Earth cable

Check if there are no false electric contacts and especially if the earth cable is not interrupted and well connected.



CAUTION

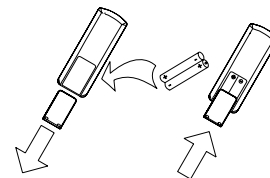
An incorrect or inexistent earth connection may cause the danger of electric shocks

4 Air filters

Check if there are the filters on Indoor Unit. The filters must be clean. In case there is no filter or the filters are dirty, reinsert or clean them.

5 Remote controller's batteries

Insert batteries in the remote controller's battery case.

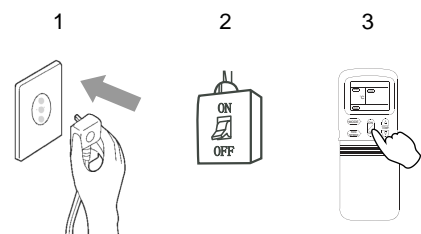


6 Unit's start

The Outdoor Unit must be connected to the power line 12 hours before its start.

Insert the plug in the power socket and move the dedicated switch to "ON". OPERATION LED on Indoor Unit will start flashing once per second.

Start the Indoor Units by pressing ON/OFF button on remote controller only 12 hours after the Outdoor Unit has been powered.



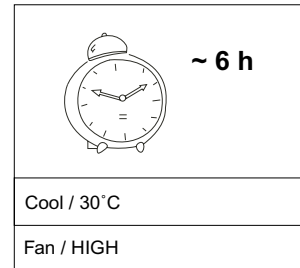
At the end of season

At the end of the season or in case you foresee not to use the air conditioner for a long time, please carry out the following procedure:

1 Dry the Unit.

Operate the air conditioner in Cool mode for about half a day by setting a temperature of 30°C, or operate the appliance in Fan mode for about half a day by setting a HIGH fan speed.

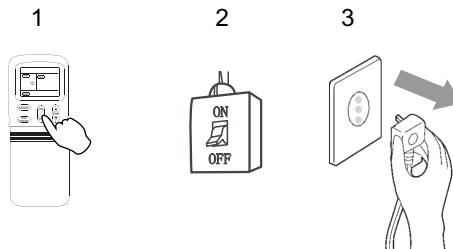
This is for drying the Unit and preventing the forming of moulds and/or bad smells.



2 Disconnect the appliance from the power supply.

Stop the air conditioner by pressing ON/OFF button on remote controller, move the dedicated switch to "OFF" or "0" and pull out the plug from the power socket.

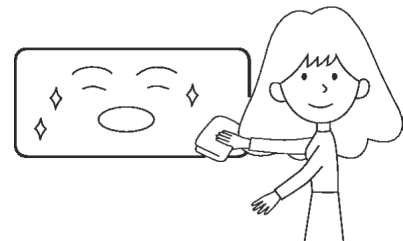
This is necessary as the appliance consumes a little quantity of electricity even if it is stopped.



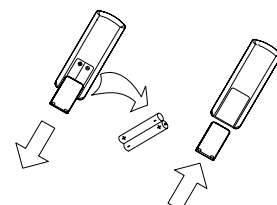
3 Clean and reinstall the air filters.



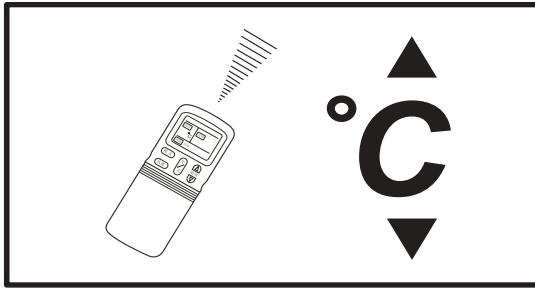
4 Clean the body or the panel of the Unit.



5 Remove batteries from the remote controller.

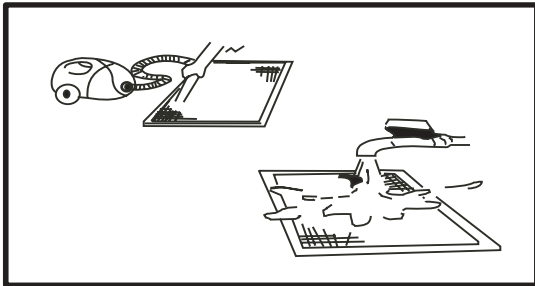


Suggestions for economical use



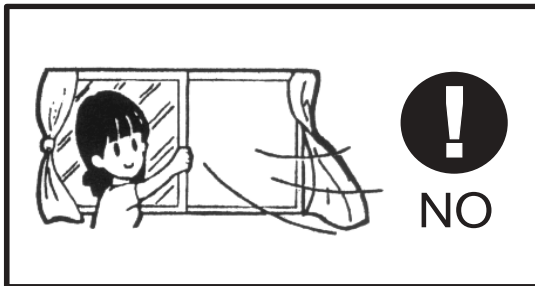
Select a suitable temperature value:

- In Heat mode, avoid to set too high temperature values.
- In Cool mode, avoid to set too low temperature values.



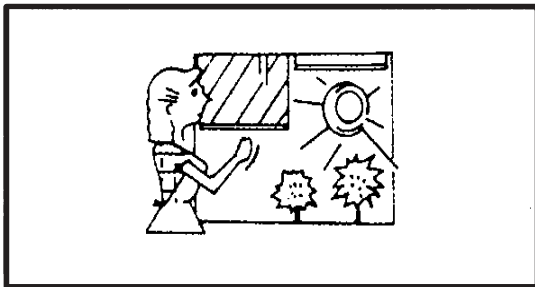
Often clean the air filters:

- To obtain the air conditioner's best performance, it is necessary to clean the filters on Indoor Unit at least every 2 weeks (see previous pages). If dust accumulates on the filter, the air conditioner's performance decreases.



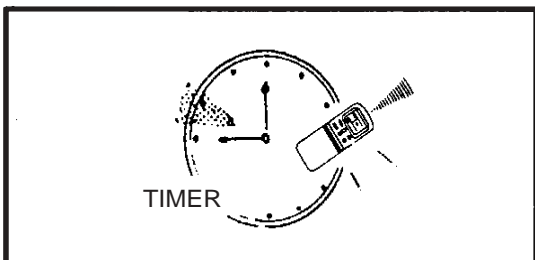
Do not keep doors or windows open:

- This decreases the air conditioner's performance and causes an increase in electricity consumption. Moreover, in case of thermal overload, the automatic protective functions may intervene, and the air conditioner will stop operation.



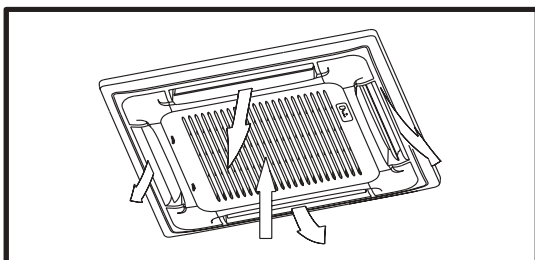
Reduce the exposure to sunlight:

- In Cool mode, protect the window panes by curtains or shutters. In this way, you can obtain more comfort and a reduction in electricity consumption.



Use TIMER function moderately:

- Do not select operating intervals higher than real comfort needs, and consider above all the real stay of people inside the air-conditioned room.



Adjust the airflow correctly:

- With a little experience, it is possible to estimate by yourself the increase in comfort which arises from a correct adjusting of the airflow coming out of the Unit. Energy consumptions being equal, comfort remarkably increases (see page 21).

TROUBLESHOOTING

Preliminary checks to be performed

TROUBLES AND POSSIBLE REASONS

BEFORE YOU START INSPECTING FOR REAL TROUBLES, CHECK THE FOLLOWING ITEMS:

THE AIR CONDITIONER DOES NOT OPERATE

- * The circuit breaker has been tripped or there is no power from the wall socket.
- * Exhausted batteries in the remote controller.
- * "TIMER ON" function is active and current time does not correspond to time set for start.

IT DOES NOT COOL OR HEAT ENOUGH

- * Air inlet or outlet are obstructed.
- * Doors or windows have been left open.
- * Air filters are clogged with dust.
- * Air louvers are not set to the correct position (see page 21).
- * Selected fan speed is too low.
- * Set point temperature is too high or too low.
- * The air conditioner is performing automatic defrosting.

THE AIR IN THE ROOM SMELLS BAD

- * Walls, carpets, furniture, clothing, furs may get impregnated with bad smells which seem to come from the Indoor Unit.
- * A white mist of chilled air and/or water is coming out of the Outdoor Unit. The air conditioner is performing automatic defrosting.

CAUTION:

Should any of the following conditions occur, immediately stop the air conditioner and contact the Authorized Technical Service:

- * You smell something burning.
- * LED lamps on Indoor Unit's panel flash 5 times per second.
- * The circuit breaker is tripped frequently.
- * Any other malfunction is observed.

WARNING !

If water comes out of the bottom side of Indoor Unit, it is necessary to inspect the drain hose's path; for no reason there should be a loop or a reverse slope along the way. This anomaly may also be the result of a malfunction of the drain pump or of the floating switch, and in this case the "ALARM" lamp starts blinking (see further on).

NOTE: If the thermal charge inside the room is too heavy if compared to the rating power of the air conditioner, you should replace the air conditioner itself with a more powerful model, or supplementary heating/cooling devices should be added.

TROUBLESHOOTING

Problems deriving from the remote controller

BEFORE STARTING TROUBLESHOOTING, PLEASE PERFORM THE FOLLOWING CHECKS:

It is not possible to change the settings while the air conditioner is operating		
WHAT HAPPENS	CHECK	POSSIBLE REASON
The User cannot change the indoor fan speed.	Check if "AUTO" mode is displayed on remote controller.	When operating in "AUTO" mode, the indoor fan speed is automatically set by the electronics.
	Check if "DRY" mode is displayed on remote controller.	When operating in "DRY" mode, the indoor fan speed is automatically set by the electronics.

The transmission indicator on the remote controller does not light up		
WHAT HAPPENS	CHECK	POSSIBLE REASON
Signals from the remote controller are transmitted only when ON/OFF button is pressed.	Check if TIMER function is active.	Signals from remote controller cannot be transmitted because the appliance is stopped.

Set point temperature is not displayed on remote controller		
WHAT HAPPENS	CHECK	POSSIBLE REASON
Set point temperature is not displayed on remote controller.	Check if "FAN" mode has been selected.	Set temperature cannot be set when operating mode is "FAN".

"TIMER" indications displayed on remote controller go off		
WHAT HAPPENS	CHECK	POSSIBLE REASON
After a lapse of time, "TIMER OFF" indication disappears from the display.	Check if TIMER OFF function has been set.	The air conditioner automatically stops at set time, and TIMER indication on remote controller goes off.
After a lapse of time, "TIMER ON" indication disappears from the display.	Check if TIMER ON function has been set.	As soon as set time for start has been reached, the air conditioner starts and the displayed time goes off.

The signal receiving tone from Indoor Unit is no more heard		
WHAT HAPPENS	CHECK	WHAT TO DO
When pressing ON/OFF button on remote controller, no receiving tone is heard from Indoor Unit.	Check if remote controller is actually turned to the receiver on the Indoor Unit and that no obstacles are placed between them.	Turn the remote controller to the receiver on the Indoor Unit; then push ON/OFF button twice.
Remote controller's buttons are not active.		Press RESET button.

NOTE: Sometimes, the remote controller may stop operating correctly because of interferences or electromagnetic noise. In this case, it is necessary to remove batteries from the remote controller, possibly eliminate the noise's reason, wait a few minutes and reinsert the batteries in their case. Now operation should be normal.

About power failure (blackout)

- When a power failure occurs during operation, the air conditioner immediately stops.
- When power is restored, the OPERATION lamp starts blinking once per second.
- In particular, the air conditioner will restart automatically after 3 minutes have elapsed since power is restored. This means that it is not required to press the “ON/OFF” button on the remote controller. The settings will be the same as before the blackout.

Flashing of “ALARM” lamp

These Models are equipped with a condensate drain pump which operates at the same time of compressor when the air conditioner runs in Cool or in Dry mode.

These Models are also equipped with a floating switch that intervenes each time the condensate water's level inside the water tank exceeds the foreseen quantity for normal operation: this is indicated by the flashing (5 times per second) of ALARM LED on Indoor Unit. Condensate water's level is controlled every 5 seconds.

In case the floating switch intervenes, compressor will stop, while the condensate drain pump will keep on operating till water level is lowered. In this way, the air conditioner's normal operation (compressor's restart) will be restored after a delay of 3 minutes (protection against compressor's close restarts).

If on the contrary, normal operation does not resume after 3 minutes since ALARM LED lighted up, the air conditioner will be stopped (stop for anomaly). This occurs for safety reasons: in fact, ALARM LED may also light up because of a malfunction of the floating switch, of the condensate drain pump or of the electrical components of both devices. In case normal operation cannot be restored, please contact the Authorized Technical Service.

EC DECLARATION OF CONFORMITY

We **TERMAL Srl** - 14, Via della Salute - 40132 Bologna - Italy

DECLARE

under our sole responsibility that HOKKAIDO products

- **HTFI 351 GR • HTFI 531 GR**
- **HTBI 711 GR • HTBI 1061 GR • HTBI 1221 GR (Indoor Units)**

- **HCKI 351 GR • HCKI 531 GR**
- **HCKI 711 GR • HCSI 1061 GR • HCSI 1221 GR (Outdoor Units)**

conform with the following directives:

- *EMC Directive 89/336/EEC and its following 92/31 EEC by D.L. n. 476 dated December 4th, 1992.*
- *LV Directive 73/23 EEC and applied standards EN 60335-2-40.*

President
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**Due to on-going technological development of the products by the manufacturer,
we reserve the right to vary the technical specifications at any time without notice.**