

OWNER'S MANUAL

# TOSHIBA

## INVERTER HEAT PUMP AIR CONDITIONER (SPLIT TYPE)

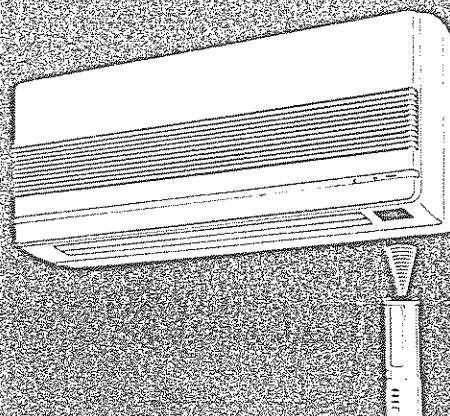
Indoor Unit

### RAS-13LKHT (W)

Outdoor Unit

### RAS-13LAHT

KEEP IT FOR FURTHER REFERENCE



Thank you very much for purchasing TOSHIBA  
Air Conditioner. Please read this owner's manual  
carefully before using your Air Conditioner.

This Equipment complies with EEC directive 82/499/EEC

# IMPORTANT SAFETY INFORMATION

## DO NOT ATTEMPT TO INSTALL & SERVICE YOURSELF

### CAUTIONS

DO NOT ATTEMPT TO INSTALL THIS UNIT YOURSELF. THIS UNIT REQUIRES INSTALLATION BY QUALIFIED PERSONS

### DANGER

DO NOT ATTEMPT TO SERVICE THE UNIT YOURSELF. THIS UNIT HAS NO USER SERVICEABLE COMPONENTS. OPENING OR REMOVING THE COVER WILL EXPOSE YOU TO DANGEROUS VOLTAGE. TURNING OFF THE POWER SUPPLY WILL NOT PREVENT POTENTIAL ELECTRIC SHOCK.

## NEVER PUT HANDS OR OBJECTS INTO THE AIR OUTLET

### DANGER

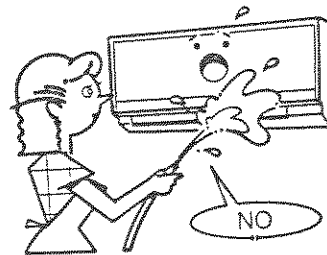
NEVER PUT HANDS OR OBJECTS INTO THE AIR OUTLET OF INDOOR AND OUTDOOR UNITS. THESE UNITS CONTAIN A FAN RUNNING AT HIGH SPEED. CONTACT WITH THE MOVING FAN WILL CAUSE SERIOUS INJURY.



## NEVER SPRINKLE WATER

### DANGER

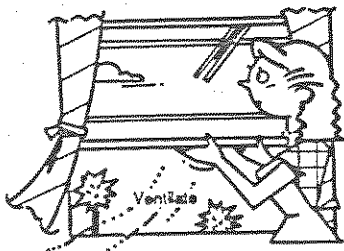
TO AVOID THE RISK OF SERIOUS ELECTRICAL SHOCK, NEVER SPRINKLE OR SPILL WATER OR LIQUIDS ON THE UNIT.



## Especially if there is also a gas appliance in use

### WARNING

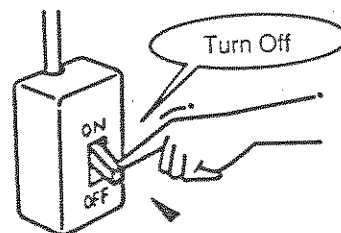
Ventilate the room occasionally while the air conditioner is in use, especially if there is also a gas appliance in use in this room. Failure to follow these directions may result in a loss of oxygen in the room.



## Before maintenance

### WARNING

To prevent electric shock, turn off the power before beginning any cleaning or other routine maintenance. Follow the directions for cleaning in the Owner's Manual.



### Do not use liquid cleaners or aerosol

#### WARNING

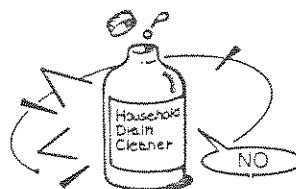
Do not use liquid cleaners or aerosol cleaners, use a soft and dry cloth for cleaning the unit. To avoid electric shock, never attempt to clean the unit by sprinkling water on it.



### Do not use caustic drain cleaner

#### CAUTION

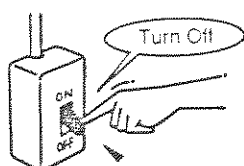
Do not use caustic household drain cleaners in the unit. Drain cleaners can quickly destroy the unit components (drain pan and heat exchanger coil etc.).



### For protection from damage due to lightning, or power line surges

#### CAUTION

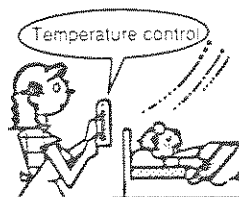
For protection during a lightning storm, or when the unit is left unattended and not used for a long time, turn off the power supply to the unit. This will prevent the unit from damage due to lightning, or power line surges.



### Control room temperature for comfort

#### CAUTION

Be careful to keep room temperature comfortable, especially when using the air conditioner for physically handicapped persons, children, or senior persons.

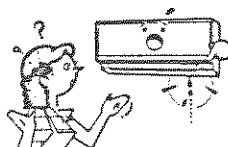


### Do not operate beyond usable conditions

#### NOTE

For proper performance, operate the unit under the usable operating temperature and humidity conditions indicated in this owner's manual.

If the unit is operated beyond these conditions, it may cause malfunctions of the unit or dew dripping from the unit.



### Please read this owner's manual

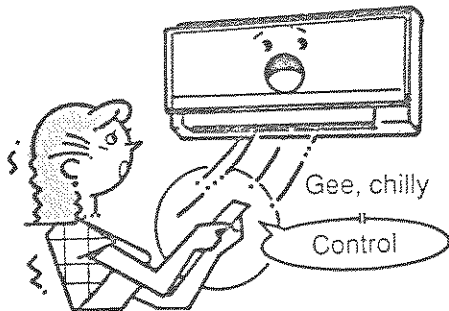
#### CAUTION

Please read this owner's manual carefully before operating the unit. It contains further important instructions for proper operation.



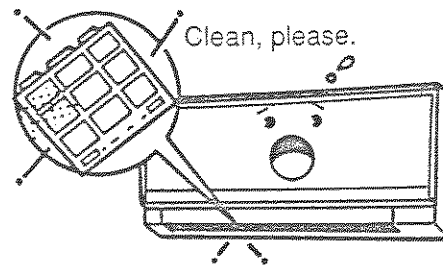
# HINTS FOR ECONOMICAL OPERATION

## Maintain room temperature at Comfortable level



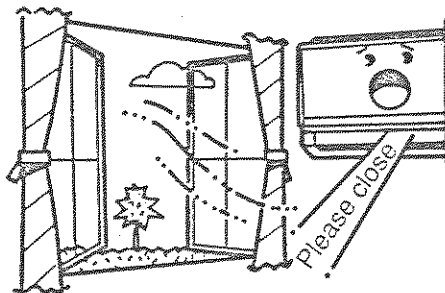
## Clean air filter

A clogged air filter impairs cooling efficiency. Clean it once two weeks.



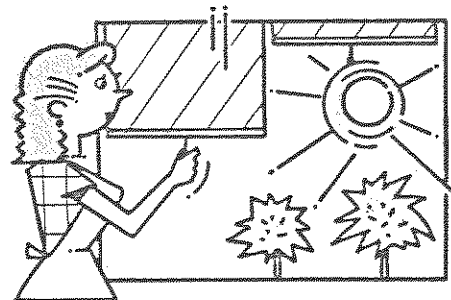
## Never open doors and windows more often than necessary

To keep chilled or heated air in the room, never open doors and windows more often than necessary.



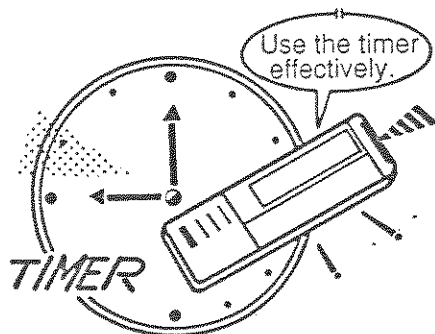
## Window curtains

In cooling, close the curtains to avoid direct sunlight; in heating, lay a carpet on the floor.



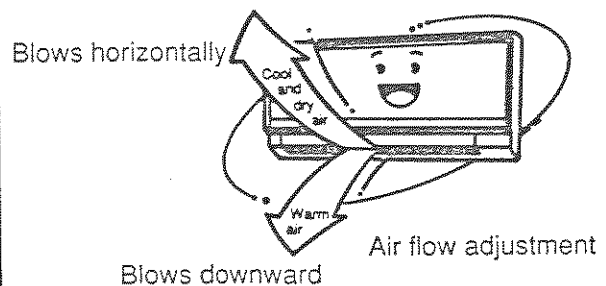
## Use the timer effectively

Set the timer for the desired operating time.



## Get uniform circulation of room air

Adjust air flow direction for even circulation of room air.



# AIR CONDITIONER OPERATIONS

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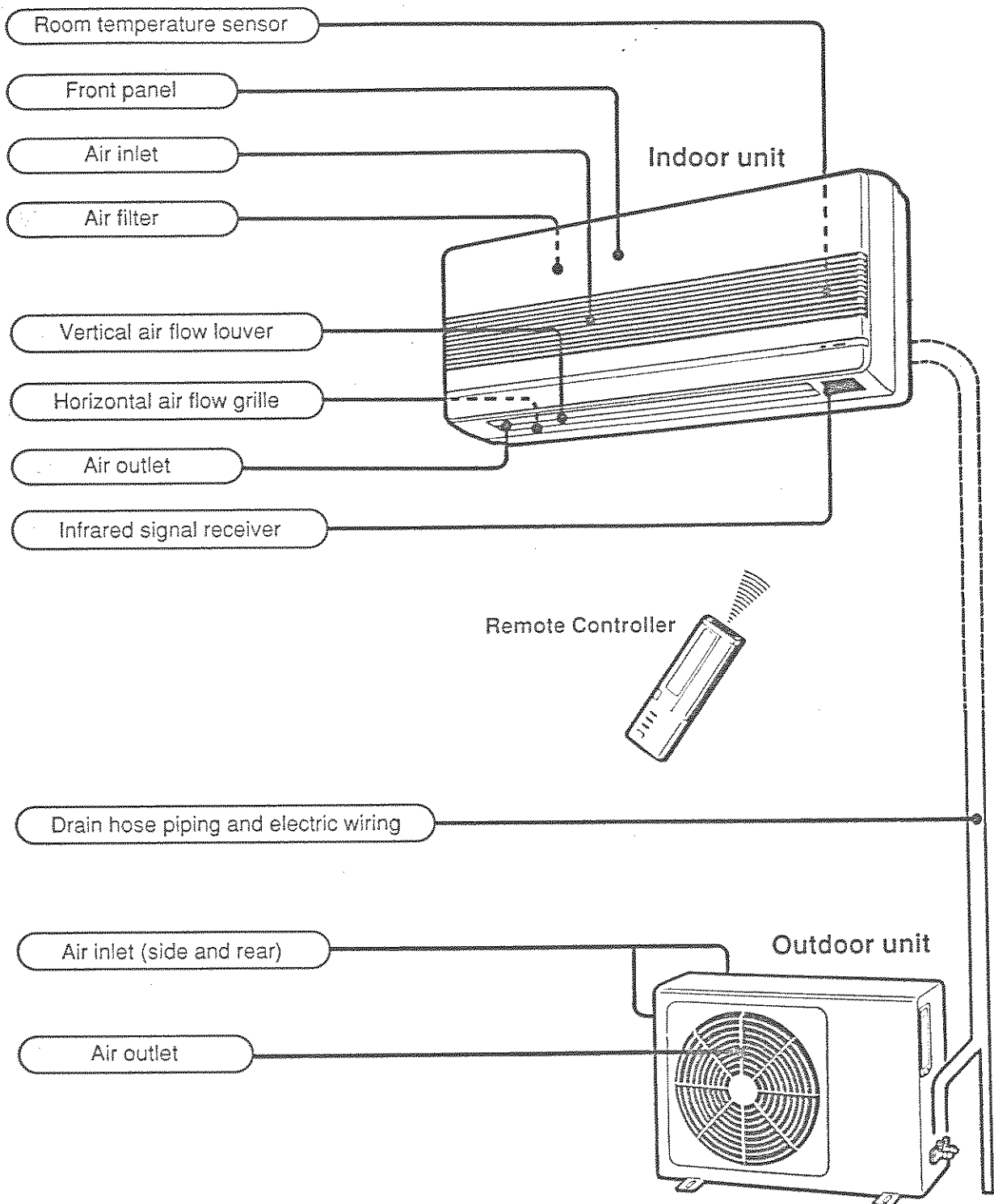
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# PARTS NAME



# NAMES AND FUNCTIONS OF INDICATORS AND CONTROLS ON INDOOR UNIT

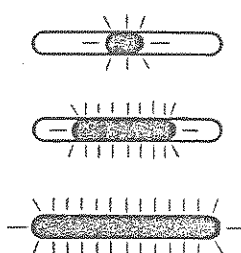
**Display Panel** The operating conditions are indicated below.



TIMER lamp (Yellow)  
page 14

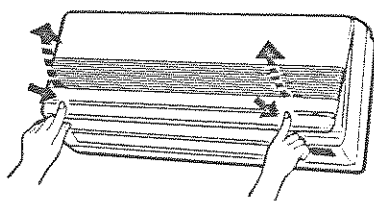
QUICK HEAT lamp (orange LED)  
page 20

OPERATION lamp (green LED)

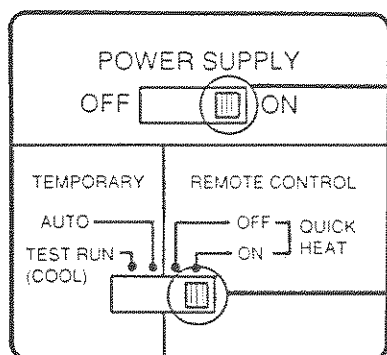


- The ON TIMER has been set
- During operation
- During power save operation
- During full power operation

**Control panel** Lift the front panel to perform control panel settings.



- Opening the front panel  
Press the PUSH on both lower ends of the front panel. Open the panel. You can lift the panel up to an angle where it will remain fixed. Do not lift the panel any further when it stops with a clicking sound.
- Closing the front panel  
Press the PUSH on both lower ends of the front panel. Close the panel firmly.



**POWER SUPPLY switch**

Normally set the switch to ON. Set it to OFF if you do not operate the unit for a few weeks.

**QUICK HEAT switch**

Set the QUICK HEAT switch ON before starting heating operation to deliver warm air in a few minutes.

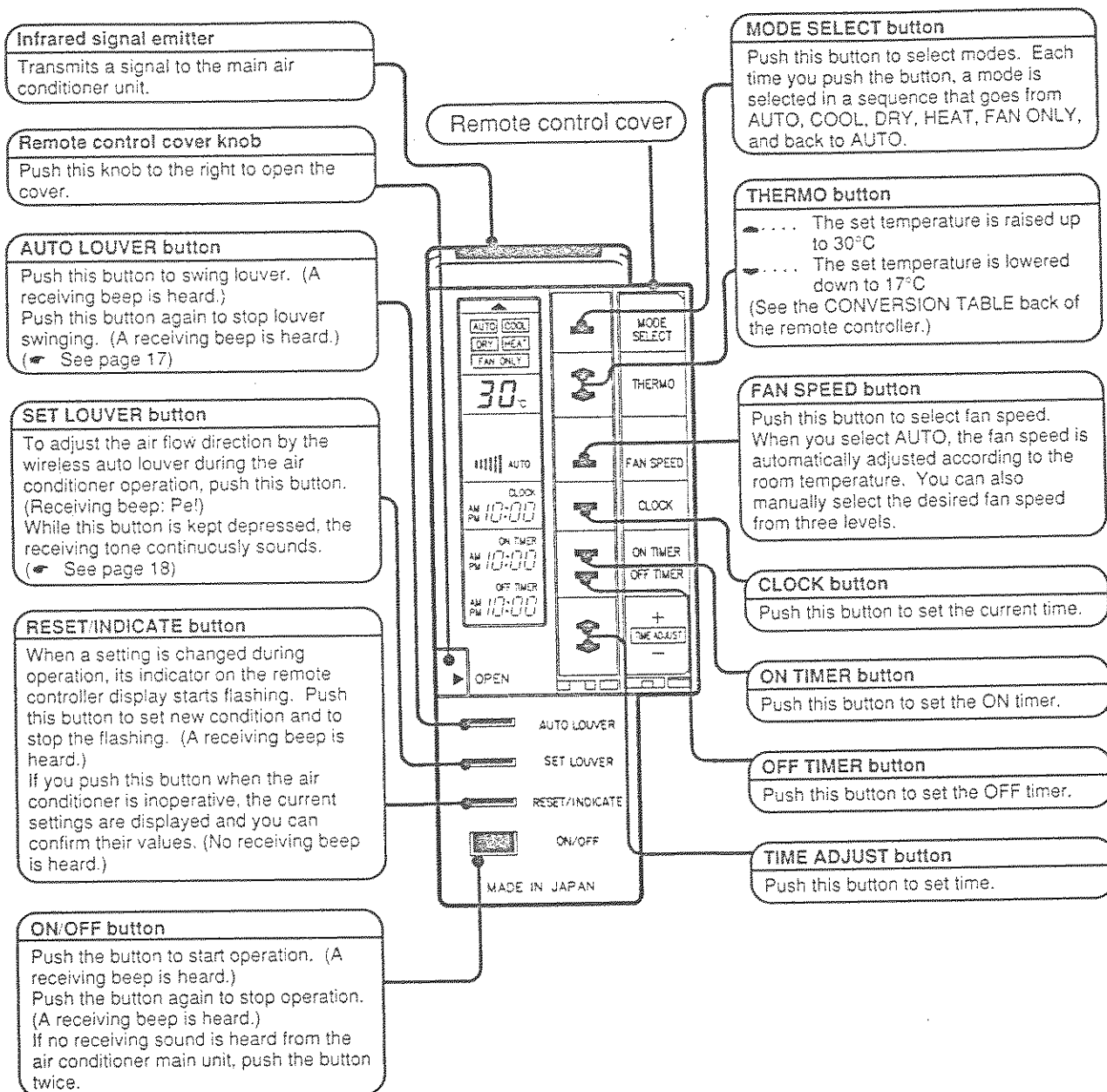
**TEMPORARY OPERATION switch**

Normally set this switch to REMOTE CONTROL. If you misplace or lose the remote controller or its batteries are exhausted, set this switch to the AUTO position of TEMPORARY operation.



# REMOTE CONTROLS AND THEIR FUNCTIONS

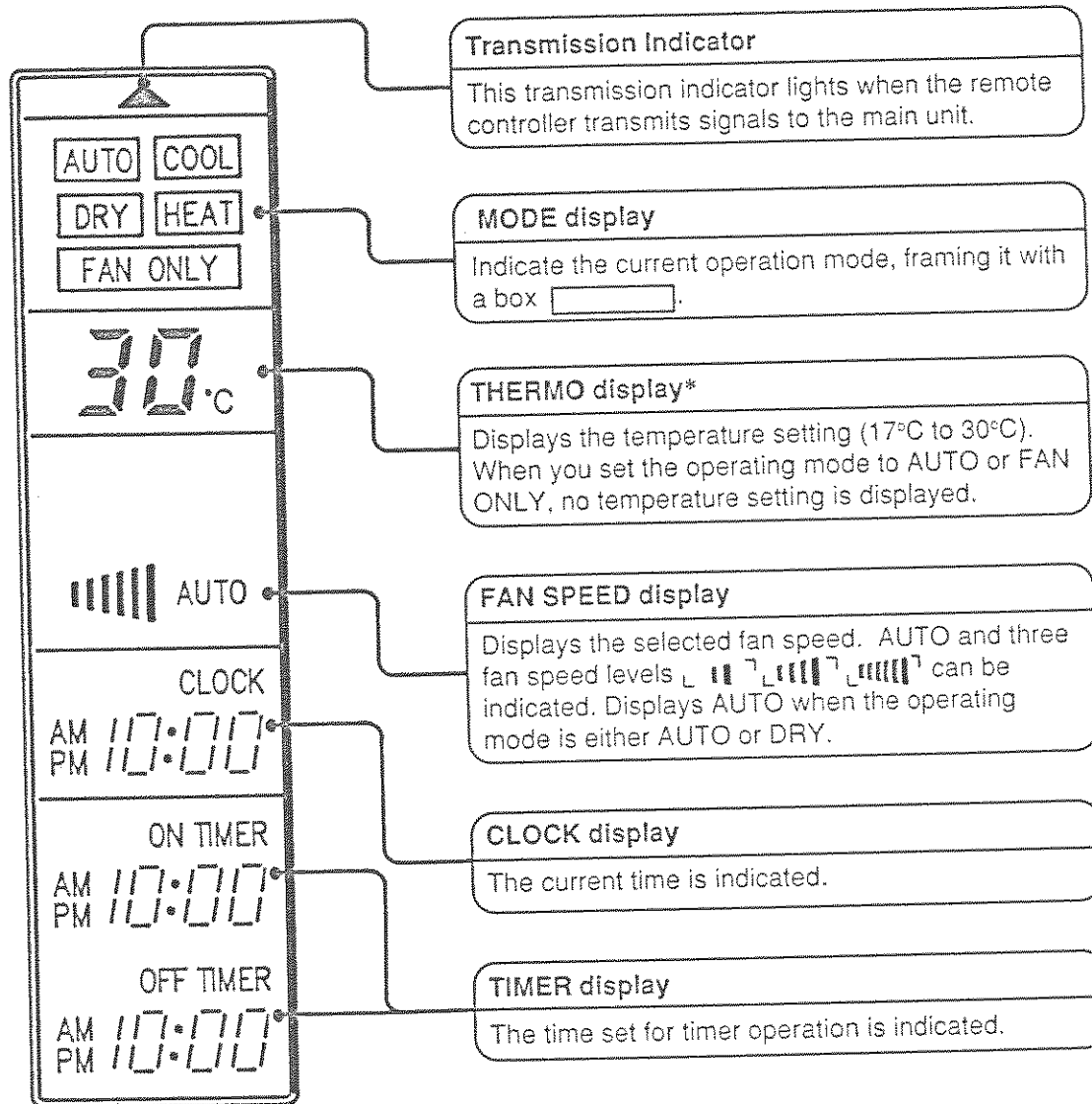
Push the RESET/INDICATE button to display current operating settings.



- The setting indicators on the remote controller display flash when a setting is changed. Push the RESET/INDICATE button to set the new conditions and stop the flashing.
- If you push the MODE SELECT button accidentally during operation and leave its indicator flashing, the operating mode will be changed to the one indicated when you turn on the unit next time.



# NAMES AND FUNCTIONS OF INDICATORS ON REMOTE CONTROLLER



- In the above illustration, all displays are indicated for the sake of clarity. During operation, only the relevant displays will be shown on the remote controller.

\* See the CONVERSION TABLE back of the remote controller

The diagram shows the back of the remote controller with an "OPEN" button and a "CONVERSION TABLE".

CONVERSION TABLE	
85	30
80	25
75	20
70	17
65	17
	°F °C

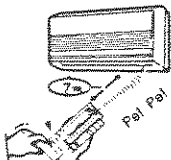
# HANDLING THE REMOTE CONTROLLER

## CAUTIONS

- The air conditioner will not operate if curtains, doors or other materials block the signals from the remote controller to the main unit.
- Prevent any liquid from falling into the remote controller.  
Do not expose the remote controller to direct sunlight or heat.
- If the infrared signal receiver at the main unit is exposed to direct sunlight, the air conditioner may not function properly. Use curtains to prevent the sunlight from falling on the receiver.
- If the room using the air conditioner has fluorescent lighting with electronic starters, signals may not be properly received. If you are planning to use such fluorescent lamps, consult your local dealer.
- If other electrical appliances react to the remote control, either move these appliances or consult your local dealer.

## Location of the remote controller

- Keep the remote controller where its signals can reach the receiver of the air conditioner (a distance of 7m is allowed).
- When you select the timer operation, the remote controller automatically transmits a signal to the main unit at the specified time. If you keep the remote controller in a position that hinders proper signal transmission, a time delay of up to 15 minutes may occur.

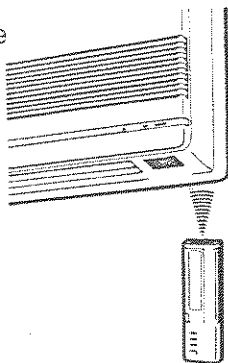


## Remote controller mounting fixture

A mounting fixture for the remote controller is supplied with it.

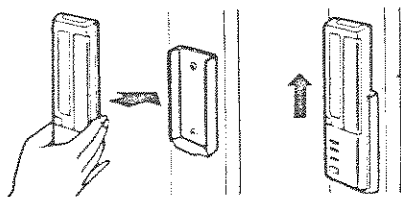
Installing the mounting fixture

- Before you actually install the mounting fixture on a wall or pillar, check whether the remote control unit signals from the location where you will install the fixture can be received by the main unit.



Mounting and removing the remote controller

- To mount, hold the remote controller parallel to the mounting fixture and push it in fully. To remove, slide the unit upwards and out from the mounting fixture.



## Replacing batteries

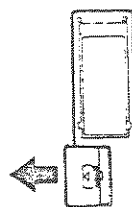
The remote controller uses two alkaline dry batteries (AM4).

- (1) Remove the cover of the battery compartment at the back of the remote controller by sliding it out in the direction of the arrow.

Remove the used batteries and insert new batteries.

- After replacing batteries, set the remote controller clock.

After you remove the old batteries and before inserting new cells, short-circuit the metal terminals next to the battery holders with a coin.



Be careful not to reverse the + position and the - position.

- (2) Before replacing the battery compartment cover, confirm that the clock panel on the remote controller displays "12:00 AM" in flashing characters.

## Notes:

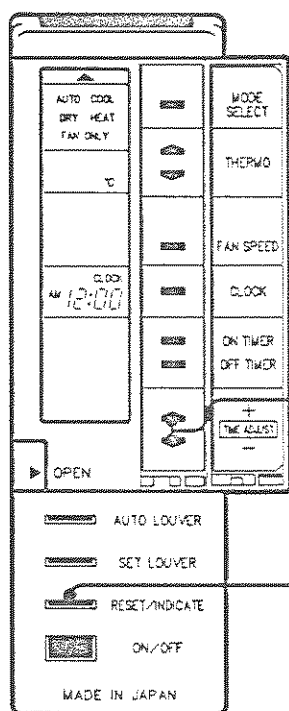
- When replacing batteries, do not use used batteries or batteries of a different type. Such use may cause the unit to malfunction.
- If you do not use the remote controller for more a few months, remove the batteries. Otherwise, battery leakage may damage the unit.
- The average battery life during normal use is approximately one year.
- Replace the batteries when there is no receiving tone from the main unit or if the transmission indicator on the remote control unit fails to light.

# SETTING THE CLOCK

Before you start operating the air conditioner, set the clock of the remote controller using the procedures given 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 "12:00 AM" in flashing characters.



### (1) TIME ADJUST button

Forward

Push to set the time.

Backward

- Each time you push the button, the time moves forward or backward by one minute depending on which side you push. If you keep the button pushed, the movement in either direction is in 10-minute units.

### (2) RESET/INDICATE button

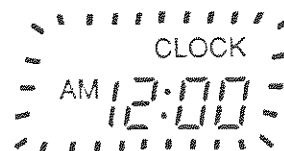
Push this button.

- When you push the RESET/INDICATE button, the clock (panel) time display stops flashing and the clock starts operating.

## Readjusting the Clock

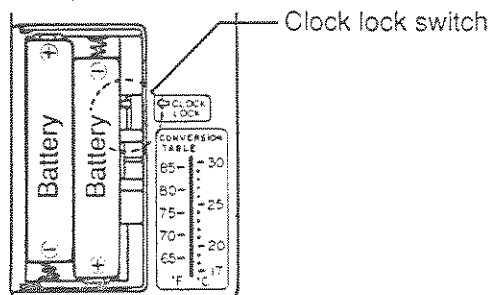
Push the CLOCK button for approximately 3 seconds. The current time display on the clock will start flashing. To set the new time, follow (1) and (2) of "Initial Setting of the Clock."

\* Clock accuracy is within  $\pm 60$  seconds per month.



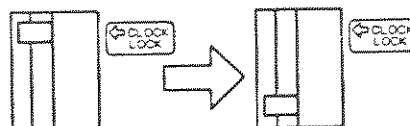
## Clock Lock Switch

The CLOCK LOCK switch prevents the current time setting from being altered in case you push the CLOCK button accidentally.



- To activate the lock, move the Clock Lock switch to the  $\Leftarrow$  position using the tip of a pencil or similar object.

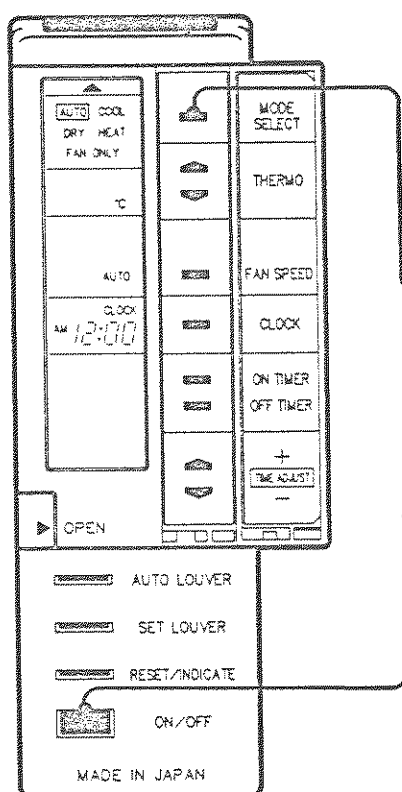
When the CLOCK LOCK switch is in the  $\Leftarrow$  position, you cannot readjust the clock. To readjust the clock, release the lock by moving the switch with the tip of a pencil or similar object.



# AUTOMATIC OPERATION

When you set the air conditioner in AUTO mode, it will automatically select cooling, drying, heating, or fan operation depending on the room temperature at starting time. See the details on page 19.

In the AUTO mode, the conditions you set for operation are saved in the unit's microcomputer memory. Thereafter, the air conditioner will start operating under the same conditions when you simply push the ON/OFF button of the remote controller.



Start

Turn ON the POWER switch on the control panel of the main unit.  
The OPERATION lamp (green LED) on the display panel of the main unit starts flashing.  
Push the RESET/INDICATE button of the remote controller.  
The indicators of the remote controller display the current settings (for 30 seconds).

1

**MODE SELECT button**  
Select AUTO.

2

**ON/OFF button**

Push this button to start the air conditioner.  
• The OPERATION lamp (green LED) on the display panel of the main unit lights. The operating mode is selected in accordance with the room temperature and operation starts after approximately 3 minutes.

Stop

**ON/OFF button**

Push this button again to stop the air conditioner.

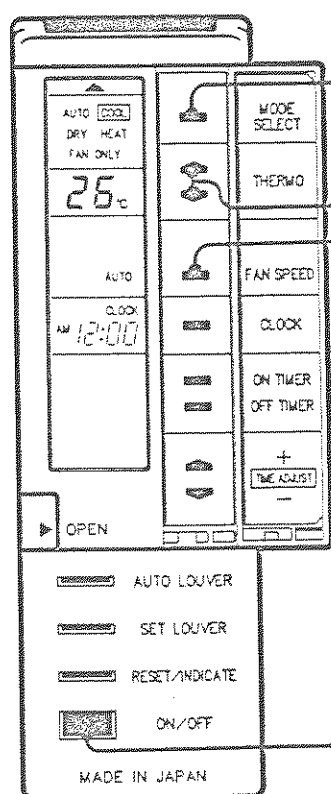
- If the AUTO mode is uncomfortable, you can select the desired conditions manually.
- When you change the operating conditions, the setting indicators on the remote controller start flashing. Be sure to push the RESET/INDICATE button to confirm the settings.
- When you select the AUTO mode, you do not have to set the fan speed. The FAN SPEED display will show AUTO and the fan speed will be automatically controlled.

## On temperature control

Room temperature at starting time	Operation conditions
Above 28°C	Cooling
24°C to 28°C	Drying
23°C to 24°C	Fan Only
Below 23°C	Heating

## HEATING/COOLING/FAN ONLY OPERATION

Once you select the operating mode, the operating conditions are saved in the unit's microcomputer memory. Thereafter, the air conditioner will start operating under the same conditions when you simply push the ON/OFF button of the remote controller.



Start

Turn ON the POWER switch on the control panel of the main unit.  
The OPERATION lamp (green LED) on the display panel of the main unit starts flashing.  
Push the RESET/INDICATE button of the remote controller.  
The indicators of the remote controller display the current setting (for 30 seconds).

1

**MODE SELECT button**  
Select HEAT, COOL, or FAN ONLY

2

**THERMO button** Set the desired temperature.  
Cooling 21°C or higher  
Heating 28°C or Lower

3

**FAN SPEED button**  
Select any of the [AUTO] [ ] (low)  
[ ] (med.) and [ ] (high).

4

**ON/OFF button**  
Push this button to start the air conditioner.  
The OPERATION lamp (green LED) on the display panel of the main unit lights. The operating mode is selected in accordance with the room temperature and operation starts after approximately 3 minutes (If you select FAN ONLY mode, the unit will start immediately.).

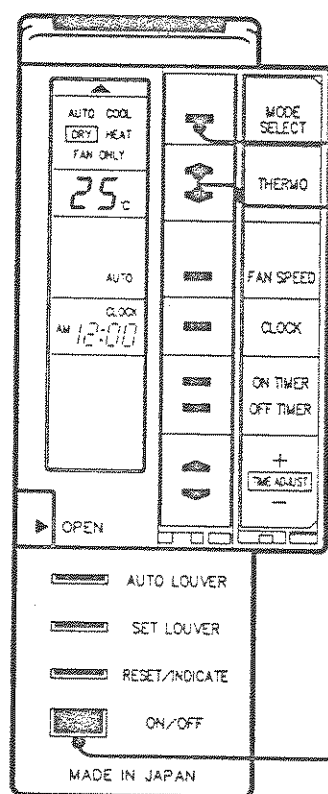
Stop

**ON/OFF button**  
Push this button again to stop the air conditioner.

- When you change operating conditions, the setting indicators of the remote controller start flashing. Be sure to push the RESET/INDICATE button to confirm the settings.
- The FAN ONLY mode does not control temperature. Therefore, perform only steps ①, ③, and ④ to select this mode.

# DRY OPERATION

Once you select the dry operation mode, the operating conditions are saved in the unit's microcomputer memory. Thereafter, the air conditioner will start operating under the same conditions when you simply push the ON/OFF button of the remote controller.



Start

Turn ON the POWER switch on the control panel of the main unit.  
The OPERATION lamp (green LED) on the display panel of the main unit starts flashing.  
Push the RESET/INDICATE button of the remote controller.  
The indicators of the remote controller display the current settings (for 30 seconds).

1

**MODE SELECT button**  
Select DRY.

2

**THERMO button**  
Set the desired temperature.

**FAN SPEED button**

The fan speed indicator displays AUTO. The Indoor fan speed will be automatically selected low.

3

**ON/OFF button**

Push this button to start the air conditioner.  
• The OPERATION lamp (green LED) on the display panel of the main unit lights, and operation starts after approximately 3 minutes.

Stop

**ON/OFF button**

Push this button again to stop the air conditioner.

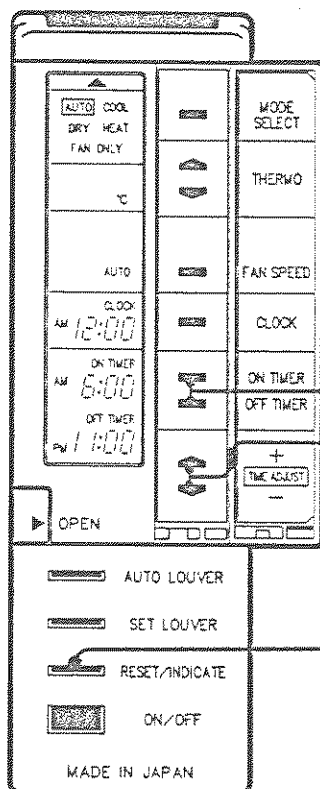
- When you change the operating conditions, the setting indicators of the remote controller start flashing. Be sure to push the RESET/INDICATE button to confirm the settings.
- See details on page 19.

# TIMER OPERATION

Once you select the timer operation, the settings are saved in the unit's microcomputer memory. Thereafter, the air conditioner will start operating under the same conditions when you simply push the ON/OFF button of the remote controller.

If the clock panel displays flashing characters, you cannot set the timer.

Follow the instructions in the section "SETTING THE CLOCK" on page 10 to set the clock, and then set the timer.



Start

## RESET/INDICATE button

Push this button. The indicators of the remote controller will display the current settings (for approximately 30 seconds).

1

## ON/OFF TIMER button

Push the ON or OFF TIMER buttons as required.

- The current timer setting flashes on the ON/OFF TIMER indicator.

2

## TIME ADJUST button

Forward Push to set the desired time.  
Backward Push to set the desired time.

- Each time you push the button, the time moves forward or backward by one minute depending on which side you push. If you keep the button pushed, the movement in either direction is in 10-minute units.

3

## RESET/INDICATE button

Push this button. Check if the TIMER lamp (yellow LED) on the display panel of the main unit is lit.

- If the TIMER lamp does not light, push the ON/OFF button. The TIMER lamp will light.

Canceling the timer operation

When you push the ON or OFF TIMER buttons, the current timer setting will disappear and the colon which remains, will start flashing.  
Push the RESET/INDICATE button to cancel the timer setting.

Changing the timer setting

Push the ON or OFF TIMER buttons twice. The current timer setting will start flashing. Perform steps ② and ③ to change the setting.

## CAUTION

When you select the timer operation, the remote controller automatically transmits the timer signal to the main unit at the specified time. Therefore, keep the remote controller in a location from which it can transmit the signal to the main unit properly.



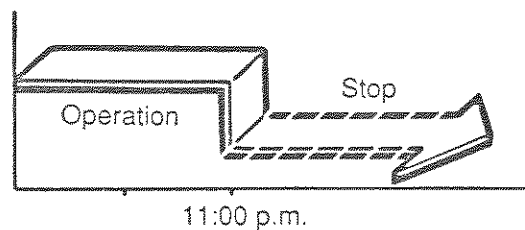
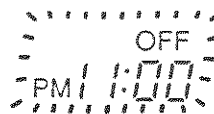
## Example of Timer Setting

### OFF timer (Operation → Stop)

The OFF timer feature is useful when you go to sleep. The air conditioner will stop automatically at the time set.

Example: To stop the air conditioner at 11:00 p.m.

- (1) Push the OFF TIMER button.
- (2) Use the TIME ADJUST button to display "11:00 PM" on the OFF timer indicator.
- (3) Push the RESET/INDICATE button.

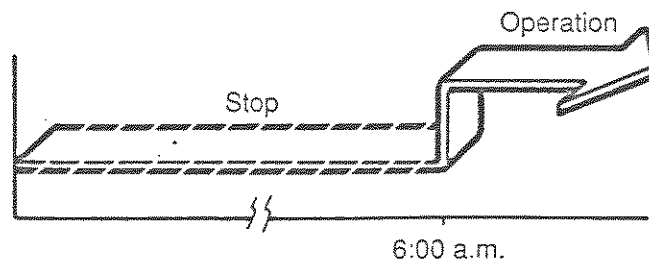


### ON timer (Stop → Operation)

The ON timer feature is useful when you wake up in the morning or when you return home. The air conditioner will automatically start operating at the time set.

Example: To start the air conditioner at 6:00 a.m.

- (1) Push the RESET/INDICATE button. The indicators of the remote controller will display the current settings.
- (2) Push the ON TIMER button.
- (3) Use the TIME ADJUST button to display "6:00 AM" on the ON timer indicator of the remote controller.
- (4) Push the ON/OFF button.



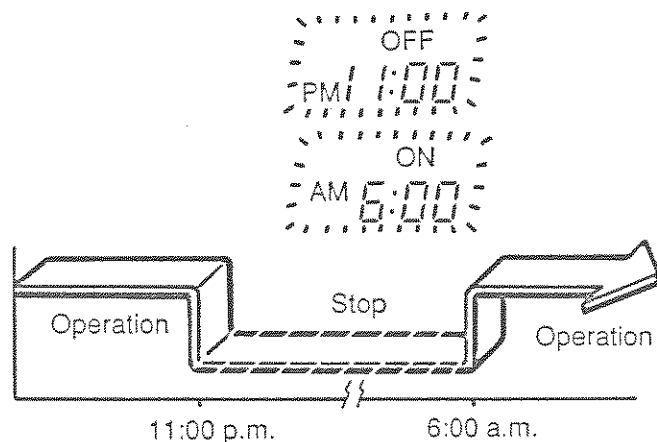
# Combined Timer (Setting both ON and OFF timers simultaneously)

## OFF timer → ON timer (Operation → Stop → Operation)

This feature is useful when you want to stop the air conditioner after you go to sleep, and start it again in the morning when you wake up.

Example: To stop the air conditioner at 11:00 p.m. and start it again next morning at 6:00 a.m..

- (1) Push the OFF TIMER button.
- (2) Use the TIME ADJUST button to display "11:00 PM" on the OFF timer indicator.
- (3) Push the ON TIMER button.
- (4) Use the TIME ADJUST button to display "6:00 AM" on the ON timer indicator.
- (5) Push the RESET/INDICATE button.

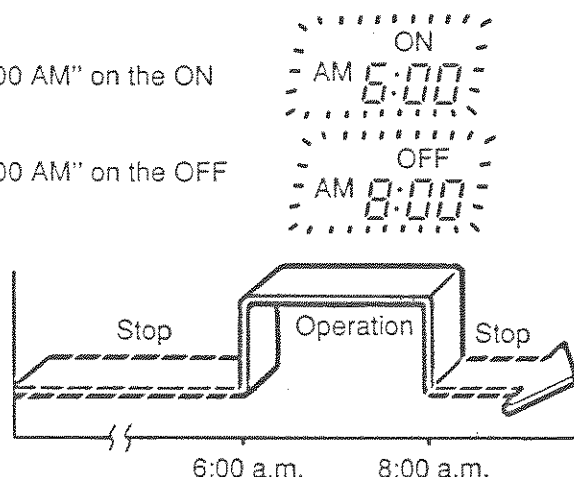


## ON timer → OFF timer (Stop → Operation → Stop)

You can use this setting to start the air conditioner when you wake up and stop it when you leave the house.

Example: To start the air conditioner at 6:00 a.m. next morning, and stop it at 8:00 a.m.

- (1) Push the RESET/INDICATE button. The indicators of the remote controller will display the current settings.
- (2) Push the ON TIMER button.
- (3) Use the TIME ADJUST button to display "6:00 AM" on the ON timer indicator of the remote controller.
- (4) Push the OFF TIMER button.
- (5) Use the TIME ADJUST button to display "8:00 AM" on the OFF timer indicator.
- (6) Push the ON/OFF button.



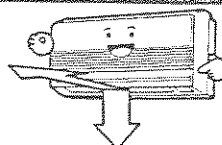
- The timer function (ON or OFF) which in time is closest to the actual time will be activated first.
- If the same time is set for both ON and OFF timers, no timer operation is performed. Also, the air conditioner may stop operating.

# ADJUSTING AIR FLOW DIRECTION

- Adjust the air flow direction properly. Otherwise, it might cause discomfort and make the room temperature uneven.
- Adjust the vertical air flow louver using the remote controller.
- Adjust the horizontal air flow grilles manually.

## Adjusting the Vertical Air Flow Direction

The air conditioner automatically adjusts the air flow direction in accordance with the operating conditions.



### To set the air flow direction you desire

Perform this function while the unit is in operation.

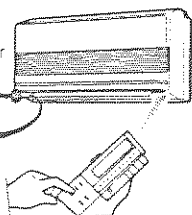
Keep pressing the SET LOUVER button on the remote controller to move the louver in the desired direction.

- Change the vertical air flow louver direction within the range indicated.

When the cooling or dry operation, set the louver in the blue zone.

When the heating operation, set the louver in the red zone.

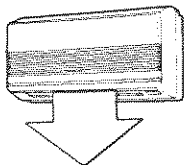
Louver indicator



- In subsequent operations, the vertical air flow is automatically set in the direction to which you adjusted the louver using the SET LOUVER button.

### How the air flows during the heating operation

When the room temperature is low, the air flow will be in a downward direction in order to heat the room from floor level.



When the room rises, the air flow will be in a diagonal direction in order to heat the whole room.



When you have set the vertical air flow direction using the SET LOUVER button, the air flows downward at first and then automatically change to the direction you desire.

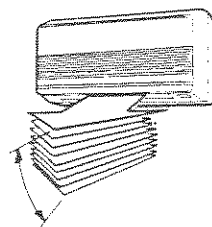
- When you stop operation using the remote controller, the vertical air flow louver will automatically close.

### To automatically swing the air flow direction

Perform this function while the unit is in operation.

Press the AUTO LOUVER button on the remote controller.

- To stop the function, press the AUTO LOUVER button again.
- To change the swing direction, press the SET LOUVER button.

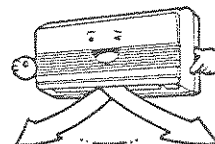


### CAUTION

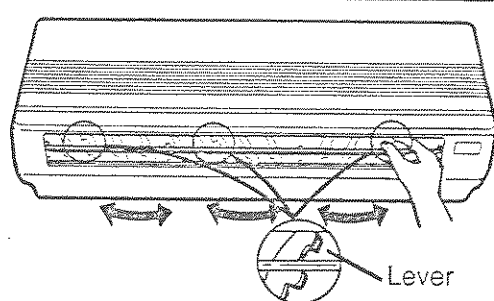
- The SET LOUVER and AUTO LOUVER buttons will be disabled when the unit is not in operation (including when the ON TIMER is set).
- Do not operate the unit for long hours with the air flow direction set downward during the cooling or dry operation. Otherwise, dew may occur on the surface of the vertical louver and cause dew dripping.
- Do not move the vertical louver manually. Always use the SET LOUVER button. If you move the louver manually, it may malfunction during operation. If the louver malfunctions, stop the unit once, and restart.
- When the unit is started immediately after it was stopped, the vertical louver might not move for 10 seconds or so.
- If you change the temperature setting during the heating operation (especially when the room temperature is high), unit may stop, and the vertical louver may close temporarily and move to the position stored in memory.

## Adjusting the Horizontal Air Flow Direction

**Preparation:** For the cooling or dry operation, move the vertical air flow louver downward using the SET LOUVER button on the remote controller.



- Take hold of the lever on the horizontal air flow grilles and move them to adjust the air flow direction as required.
- You can adjust the air flow at the left, center, and right locations of the grilles.
- For the cooling or dry operation, return the vertical air flow louver to the original position using the SET LOUVER button on the remote controller.



### How the unit operates when there is a power failure or a malfunction

When there is a power failure while the unit is operating, all operations stop.

- When the power returns, the OPERATION lamp (green LED) on the main unit display panel starts flashing.

If the unit malfunctions during operation due to a disturbance caused by thunder or automobile radios, turn OFF the POWER switch of the main unit control panel.

Subsequently, turn ON the POWER switch and press the ON/OFF button on the remote controller.

## AUTOMATIC OPERATION

- The air conditioner selects and operates in one of the operating modes for cooling, drying, heating, or fan only, depending on the room temperature.
- If the AUTO mode is uncomfortable, you can select the desired conditions manually.

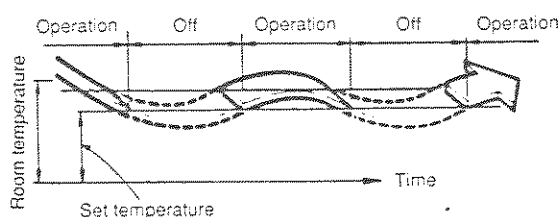
Room temperature at start of operation	Conditions for mode selection	
More than 28°C (hot)	Cooling mode	Cooling operation is performed with the temperature setting at 26°C. The fan speed is set to automatic.
26°C to 28°C (high humidity)	Dry mode	Dry operation is performed with the temperature setting at 25°C. A low fan speed is used.
24°C to 26°C (hot and humid)	Dry mode	Dry operation is performed with the temperature setting at 23°C. A low fan speed is used.
23°C to 24°C	Fan only mode	The Fan operation (low speed) is performed while monitoring the room temperature. If the room temperature changes, the operating mode is switched to the dry or heating operation modes.
Less than 23°C (cold)	Heating mode	Heating operation is performed with the temperature setting at 23°C. The fan speed is set to AUTO.

## DRY OPERATION

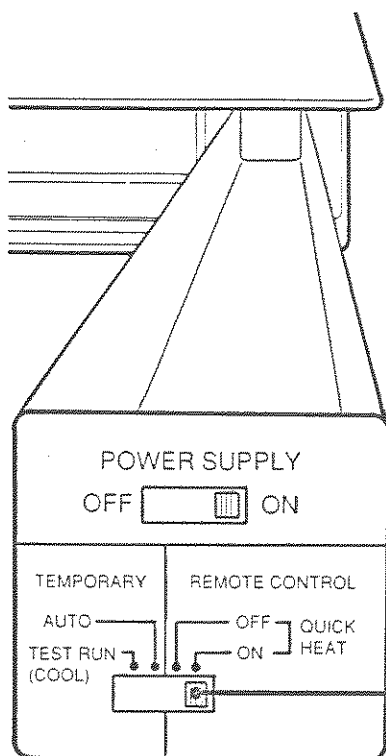
The dry mode will automatically select the cooling dry operation based on the difference between the set temperature and the actual room temperature.

### Cooling dry operation

This operation is performed when the room temperature is higher than the set temperature. The temperature is regulated while dehumidifying by repeated turning on and off of the cooling operation. The fan speed indicator will display AUTO and a low speed will be used.

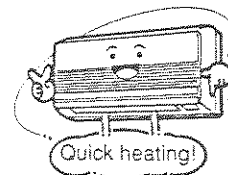


# QUICK HEAT AND TEMPORARY OPERATIONS



## Quick Heat

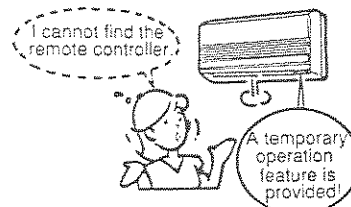
Turn ON the QUICK HEAT switch during the cold season to set the quick heating operation. The quick heating operation delivers warm air in about 75 seconds after the operation is started.



- When the QUICK HEAT switch is turned ON and activates the preheating circuit, power consumption is approximately 28 W to 42 W.
- The warm air blows out after about 75 seconds under the following conditions:  
When the room temperature is below 20°C and the heating operation has been stopped for more than two hours.

## Temporary Operation

This function is used to operate the unit temporarily in case you misplace the remote controller.



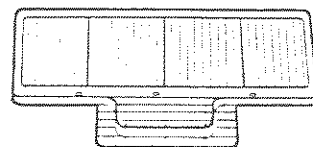
- Set the switch to the AUTO position in order to start the A1 automatic operation.
- Set the switch to the COOL position to start the cooling operation (light wind).
- While the substitute operation is set, the remote control operation is disabled.

# ELECTROSTATIC FILTER

To purify the room air, attach the electrostatic air filters. This filter reduces the air volume and marginally lowers the performance of air conditioner, however, eliminates cigarette smoke and fine dust particles from the room air. (A deodorizer is included.)

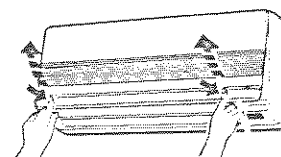
## How to install the electrostatic filter

- 1 Take out the two of the electrostatic filters.



- 2 Stop the air conditioner.

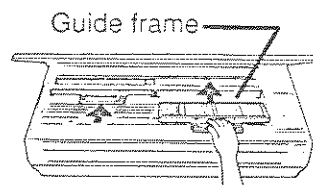
- 3 Press the PUSH on both left and right lower ends of the front panel to open the front panel. You can lift the panel up to an angle where it will remain fixed. Do not lift the panel any further when it stops with a clicking sound.



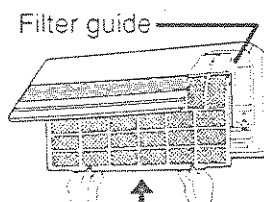
- 4 Take hold of both left and right sides handles of the air filter and lift it up slightly. Pull the air filter downward.



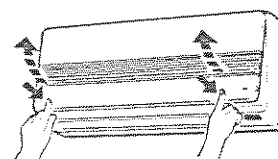
- 5 Hold the electrostatic air filter by its handles and insert it into the guide frame until it is firmly set.



- 6 Insert the air filter firmly until the upper portion of it is aligned with the filter guide. Set the lower portion of the air filter in the filter holder.



- 7 Press the PUSH on both lower ends of the front panel and firmly close the front panel.





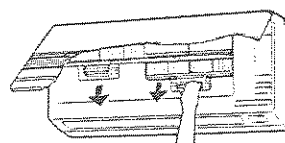
- The replacement of the optional clean air filter depends on the operating conditions. Normally, it is three months.
- Replace the electrostatic filter before the three-month period is over if the colour of the filter element becomes the same as the filter frame.
- Please purchase the Toshiba room air conditioner optional clean air filter (RB-A402DE) at the dealers for replacement.

### How to replace the electrostatic filter

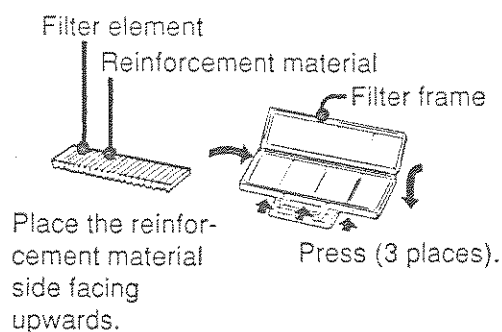
**1** Stop the air conditioner.

**2** Open the front panel. Pull out the air filter.

**3** Hold the electrostatic filter by its handles and pull it downwards.



**4** Press three points (indicated by the arrows in the figure) on the filter frame to open it. Replace the filter element with the new one. (Place the new filter element with the reinforcement material side facing upwards.) Close the filter frame.



**5** Hold the electrostatic filter assembled by its handles and insert it into the guide frame until it is firmly set.

**6** Attach the air filter.  
Close the front panel.



# ENSURING PROPER AIR CONDITIONER USAGE

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# FOR MAINTENANCE

## WARNING

Before you clean the air conditioner, be sure to turn it OFF.

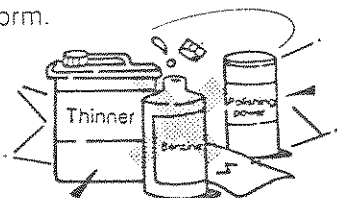
### Cleaning the main unit and the remote controller

#### CAUTION

- Use a dry cloth to wipe the main unit and remote controller.
- A cloth dampened with cold water may be used on the main unit if it is very dirty.
- Never use a damp cloth on the remote controller.

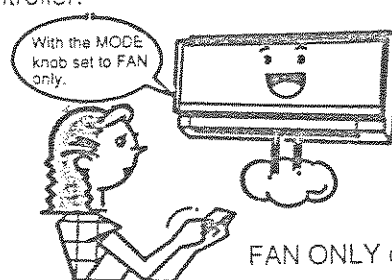


- Do not use a chemically-treated duster for wiping or leave such materials on the unit for long. It may damage or fade the surface of the unit.
- Do not use benzine, thinner, polishing powder, or similar solvents for cleaning. These may cause the plastic surface to crack or deform.



### If you do not plan to use the unit for at least 1 month

- (1) Operate the fan for about half a day to dry the inside of the unit.
- (2) Stop the air conditioner and disconnect power.
- (3) Remove the batteries from the remote controller.



### Checks before operation

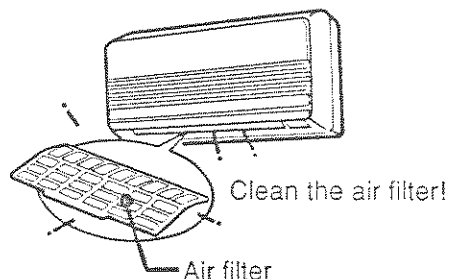
#### CAUTION

- Check that the ground wire is not broken or disconnected.
- Check that the air filter is installed.
- Check that the outdoor unit air outlet or inlet is not blocked.

Before you clean the air conditioner, be sure to turn it OFF.

### Cleaning the air filter

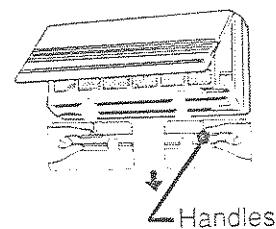
Clean the air filter every 2 weeks.  
If the air filter is covered with dust, the performance of cooling and heating will deteriorate.  
Clean the air filter as often as possible.



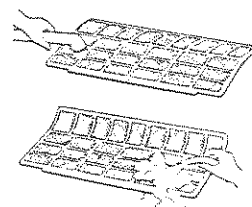
- 1 Press the PUSH buttons on both lower corners of the front panel to open the front panel.  
You can lift the panel up to an angle where it will remain fixed. Do not lift the panel any further when it stops with a clicking sound.



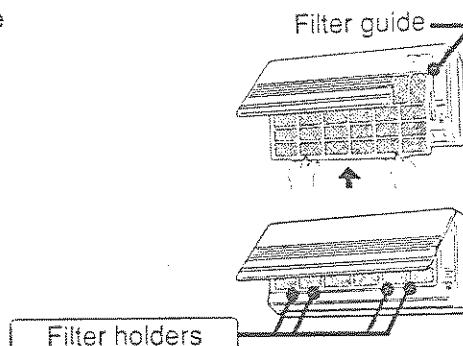
- 2 Take hold of the left and right handles of the air filter and lift it up slightly to take it out from the filter holder. Take hold of the handles and pull the air filter downward.



- 3 Use a vacuum cleaner to remove the dust or wash the air filter.  
If you wash the air filter, dry the filter in the shade.



- 4 Insert the upper portion of air filter along the filter guide until it is firmly set.  
Set the lower portion of air filter in the filter holder.



- 5 Press the PUSH buttons on both lower corners of the front panel and close the front panel firmly.

# AIR CONDITIONER OPERATIONS AND PERFORMANCE

## Three-minute protection feature

A protection feature prevents the air conditioner from being activated for approximately 3 minutes when it is restarted immediately after operation or when the POWER switch ( see page 6) is set to on. This will protect the machine.

## Heating characteristics

### Preheating operation

The air conditioner will not deliver warm air immediately after it is started. Warm air flows out after approximately 5 minutes when the indoor heat exchanger warms up. Warm air flows out after about 75 seconds during the quick heating operation.

### Warm air control

When the room temperature reaches the set temperature, the fan speed is automatically reduced to prevent a cold draft. At this time, the outdoor unit will stop to reduce the air volume.

### Defrosting

If the outdoor unit is frosted during heating operation, defrosting is started automatically (for approximately 2 to 10 minutes) to maintain the heating effect.

- The fans in both the indoor and outdoor units stop during the defrost operation.
- During defrost operation, defrosted water is drained from the bottom plate of the outdoor unit.

## Heating capacity

This air conditioner uses an inverter that raises the rotational speed of the compressor to maintain the heating capacity when the outdoor temperature becomes low. If you still feel chilly, it is recommended to use another heating apparatus in combination with the air conditioner.

## Consideration for accumulated snow

Select the position for the outdoor unit where it will not be subjected to snow drifts, accumulation of leaves or other seasonal debris. It is important that the air flow for the outdoor unit is not impeded as this will result in reduced heating or cooling performance. During the heating mode, and at sub-zero temperatures, the water drained off the outdoor unit as a result of the automatic defrost may accumulate and freeze. It is important that adequate drainage or a soak-way is provided.

## Power failure

Power failure during operation will stop the unit completely.

- The OPERATION lamp (green LED) on the main unit will start flashing when power is restored.
- To restart operation, push the ON/OFF button on the remote controller.
- Lightning or a car wireless telephone operating nearby may cause the unit to malfunction. Turn POWER switch on the main unit to OFF and then to ON. Press the ON/OFF button on the remote controller to restart.

## Air conditioner operating conditions

For proper performance, run the air conditioner under the following temperature conditions:

Cooling operation	Outdoor temperature: 21 to 43°C (Usable outdoor temperature: 10 to 43°C)
	Room temperature: 21 to 32°C <b>CAUTION</b> Room relative humidity – less than 80 %. If the unit operates in excess of this figure, the surface of the unit may attract condensation.
Heating operation	Outdoor temperature: -5 to 21°C (Usable outdoor temperature: -10 to 21°C)
	Room temperature: Less than 28°C
Dry operation	Outdoor temperature: 11 to 43°C
	Room temperature: 17°C to 32°C

If the unit is used outside of the above conditions, safety protection features may come into operation.

# INSTALLATION

## Location

- Your air conditioner removes moisture from the room air when cooling. Arrange a pipe to drain all water from the unit.
- Keep the indoor unit at least 1m apart from the TV set or radio to protect them against image disturbances or noises.
- Powerful radio transmitters or any other devices radiating high-frequency radio waves can cause the air conditioner to malfunction. Please consult the shop where you purchased the air conditioner before installing it.
- Don't install the unit in a hazardous location where combustible gas or vapor is likely to concentrate in the air.
- If the air conditioner is operated in an atmosphere containing oils (machine oil), salt near a coastal area, sulfide gas near a hot spring, etc. Such substances may lead to failure of the unit.

## Be careful with noise or vibrations

- Install the air conditioner on solid ground to prevent transmission of noises or vibrations to other sites or their amplification.
- Objects placed near the air outlet of the outdoor unit could amplify noises emitted from it.
- Locate the outdoor unit where noise emitted by it or hot air from its air outlet will cause no nuisance to your neighbors.
- If the air conditioner sounds abnormal during operation, contact the shop where you purchased this unit.

## Wiring

- Ground the air conditioner for prevention of electric shock.
- Provide an outlet for exclusive use with your air conditioner.
- Never pull the power cord tight or remote controller cord.
- Ground the air conditioner in accordance with the applicable local regulations.
- Use a fuse with the correct rated ampere, if it is needed.

## Warning

THIS APPLIANCE MUST BE EARTHED.

### IMPORTANT

THE WIRES IN THIS MAINS LEAD ARE COLORED IN ACCORDANCE WITH THE FOLLOWING CODE:

Green and Yellow	- EARTH
Blue	- NEUTRAL
Brown	- LIVE

As the colors of the flexible cord of the this appliance may not correspond with the colored markings identifying terminals in your plug, proceed as follows:

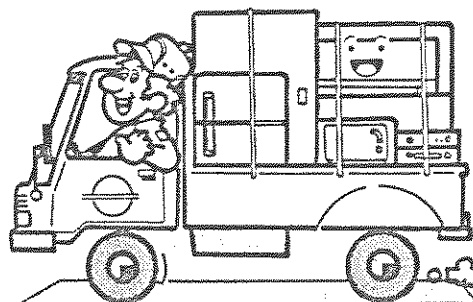
Connect GREEN AND YELLOW colored core to plug terminal marked letter "E" or Earth Symbol " $\perp$ " or colored Green or Green and Yellow.

Connect BROWN colored core to plug terminal marked letter "L" or colored Red.

Connect BLUE colored core to plug terminal marked letter "N" or colored Black.

## Relocation

If you move out or if it is desired to relocate the air conditioner, consult your dealer because the special skills to withdraw Freon, purge air, and perform other operations are required.





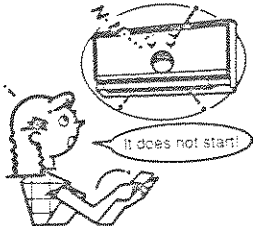
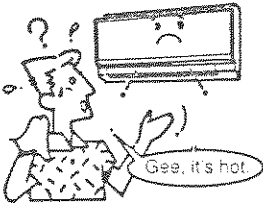
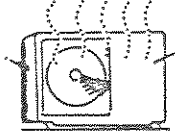
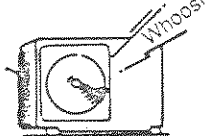
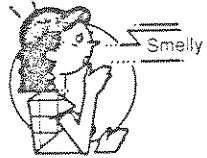
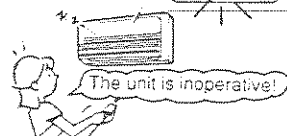
# TROUBLES AND CAUSES

## CAUTION

If any of the following conditions occur, stop the air conditioner immediately, set to off the power switch, and contact the dealer:

- The indicator lamps flash rapidly (five times per second), you turn OFF the POWER switch, and turn it ON again after two or three minutes but the lamps still flash.
- Switch operations are erratic.
- The fuse is blown frequently or the circuit breaker is tripped frequently.
- Foreign matter or water has fallen inside the air conditioner.
- Any other unusual condition is observed.


Before you ask for servicing or repairs, check the following points.

Symptoms		Possible Causes
Recheck	 <p>Inoperative.</p>	<ul style="list-style-type: none"> <li>• The power supply switch of the main unit is set to off.</li> <li>• The power fuse is blown or the circuit breaker has been tripped.</li> <li>• The batteries in the remote control unit are exhausted.</li> <li>• The timer is set.</li> </ul>
	 <p>Does not cool or heat well.</p>	<ul style="list-style-type: none"> <li>• The air inlet or outlet of the outdoor unit is blocked.</li> <li>• Doors or windows are open.</li> <li>• The air filter is clogged with dust.</li> <li>• The louver is not at the correct position.</li> <li>• The fan speed is set to low.</li> <li>• The temperature setting is too high or too low.</li> </ul>
These are not failures	 <p>A white mist of chilled air or water is generated from the outdoor unit.</p>	<ul style="list-style-type: none"> <li>• The outdoor unit fan has automatically stopped for the defrost operation.</li> </ul>
	 <p>A noise is sometimes heard from the outdoor unit.</p>	<ul style="list-style-type: none"> <li>• The solenoid valve produces this noise when it starts to operate at the beginning and end of the defrost operation. A brief noise may also be heard from the indoor unit sometimes.</li> </ul>
	 <p>Room air is smelly. A bad odor comes from the air conditioner.</p>	<ul style="list-style-type: none"> <li>• Smells impregnated in the wall, carpet, furniture, clothing, or furs, are coming out.</li> </ul>
	 <p>The OPERATION lamp (green) flashes.</p>	<ul style="list-style-type: none"> <li>• The lamp flashes once per second when power is restored after a power failure, or when the POWER switch is set to on. (To stop flashing, see "Power Failure" on page 27.)</li> </ul>



# TROUBLES AND CAUSES

## (Concerning Remote Controller)

Before you ask for servicing or repairs, check the following points.

Setting Change Is Impossible		
Symptoms	Causes	Reason and Disposal
The fan speed can not be changed.	<ul style="list-style-type: none"> <li>Check whether the MODE indicated on the display is "AUTO".</li> </ul> <div style="border: 1px solid black; padding: 5px; text-align: center; width: fit-content; margin: 10px auto;">AUTO</div>	When the automatic mode is selected, the air conditioner automatically selects the fan speed.
	<ul style="list-style-type: none"> <li>Check whether the MODE indicated on the display is "DRY".</li> </ul> <div style="border: 1px solid black; padding: 5px; text-align: center; width: fit-content; margin: 10px auto;">DRY</div>	When dry operation is selected, the air conditioner automatically selects the fan speed. The fan speed can be selected during "COOL" and "FAN ONLY".
The timer can not be changed.	<p>The same time has been set for the ON and OFF timers. A colon (:) flashes on either the ON or OFF timer display.</p> <div style="text-align: center; margin-top: 20px;">  </div>	When a colon flashes on the ON (or OFF) timer display, you cannot set the time. To reset timer, push the timer button where the colon appears. (See page 14 for complete directions.)

The Transmission Indicator '▲' Never Comes On		
Symptoms	Causes	Reason and Disposal
The remote control signal is not transmitted even when the RESET/INDICATE button is pushed. (The transmission indicator '▲' does not come on.)	<ul style="list-style-type: none"> <li>Check whether the RESET/INDICATE button is pushed when the air conditioner operation is kept stopped and the display is kept off.</li> </ul>	Even if only the display comes on, remote control signals are never transmitted, and even if the RESET/INDICATE button is continuously pushed thereafter, the signal transmission still remains impossible.
	<ul style="list-style-type: none"> <li>Check whether the battery life has expired.</li> </ul>	Restart the air conditioner by pushing the ON/OFF button on the remote controller. Replace batteries if worn out. (☛ Page 9)
The remote control signal is not transmitted even when the SET LOUVER button is pushed.	<ul style="list-style-type: none"> <li>Check whether the ON TIMER is indicated on the display.</li> </ul>	The remote control signal is not transmitted, because the air conditioner is off.

The Display Never Comes On		
Symptoms	Causes	Reasons
The THERMO indicator does not come on.	<ul style="list-style-type: none"> <li>Check whether the MODE indicated on the display is "AUTO".</li> </ul> <div style="border: 1px solid black; padding: 2px; text-align: center; margin: 5px 0;">AUTO</div>	The microcomputer automatically selects the temperature.
	<ul style="list-style-type: none"> <li>Check whether the MODE indicated on the display is "FAN ONLY".</li> </ul> <div style="border: 1px solid black; padding: 2px; text-align: center; margin: 5px 0;">FAN ONLY</div>	The temperature cannot be set during fan only operation.
The clock is unable to be set.	The CLOCK LOCK switch is set to the  position.	When the CLOCK LOCK switch is set to the $\Rightarrow$ position, you cannot adjust the time. (  page 10)

The Display Goes Off		
Symptoms	Causes	Reasons
The indication on the display disappears after a lapse of time.	<ul style="list-style-type: none"> <li>Check whether the timer operation come to end when the OFF TIMER is indicated on the display.</li> </ul>	The air conditioner operation stops since the set time elapsed.
	<ul style="list-style-type: none"> <li>Check whether the display block is turned on by pushing the RESET/INDICATE button when the air conditioner operation is kept stopped.</li> </ul>	The indication is turned on by pushing the RESET/INDICATE button while the air conditioner operation is kept stopped, the indication automatically goes off in about 30 seconds.
The TIMER indicators go off after a lapse of certain time.	<ul style="list-style-type: none"> <li>Check whether the timer operation is started when the ON TIMER is indicated on the display.</li> </ul>	When the time set to stop the air conditioner is reached, the air conditioner will automatically stop and the appropriate indicator will go off.

The Signal Receiving Tone Does Not Come Out		
Symptoms	Causes	Disposal
No receiving tone comes out of the indoor unit even when the ON/OFF button is pushed.	<ul style="list-style-type: none"> <li>Check whether the signal transmitter of the remote controller is properly directed to the receiver of the indoor unit when the ON/OFF button is pushed.</li> </ul>	Direct the signal transmitter of the remote controller to the receiver of the indoor unit, and then repeatedly push the ON/OFF button twice.

# SPECIFICATIONS

MODEL	Indoor unit RAS-13LKHT (W)	Outdoor unit RAS-13LAHT
Type	Reverse Cycle, Split type	
Power supply	1 $\phi$ , 50 Hz, 220/240 V	
Cooling Capacity	12000 Btu/h	
Amps	0.17 A	6.11 A
Watts	35 W	1265 W
Power factor	90 %	90 %
Heating Capacity	16800 Btu/h	
Amps	0.17 A	8.77 A
Watts	35 W	1815 W
Power factor	90 %	90 %
Net weight	9 kg	39 kg
Dimension width	815 mm	780 mm
Height	360 mm	538 mm
Depth	160 mm	245 mm
Starting current	8.94 A	

- The specifications may be subject to change without notice for purpose of improvement.





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