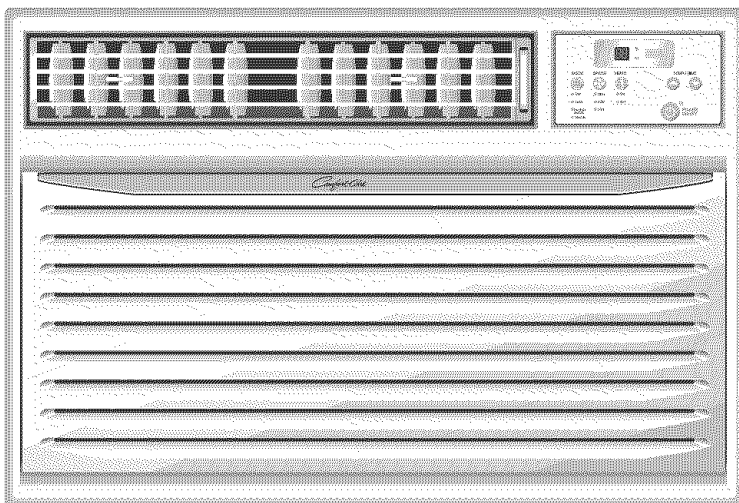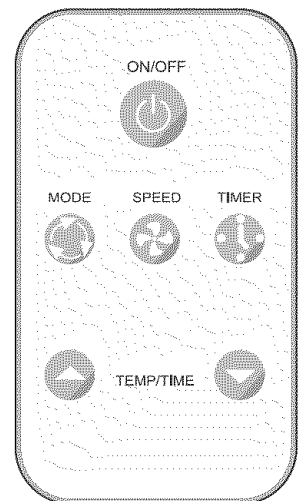# Comfort-Aire ®

Room Air Conditioner
Electronic Control
Climatisation de Pièce
à Commande Electronique
Acondicionador De Aire
Control Electrónico

RADS-181A

User Manual
Manuel d'utilisation
Manual del Usuario

Read instructions before installing.
Call 1-866-217-5782 for questions on parts and services.

Lire les instructions avant de procéder à l'installation.
Pour toutes questions concernant les pièces et l'entretien, composez le 1-866-217-5782.

Lea las Instrucciones antes de instalar el aparato
Llámenos al 1-866-217-5782 si tiene preguntas sobre repuestos o servicios

0010555512

A Word From Comfort-Aire

Thank you for buying a dependable, energy-saving and easy-to-operate room air conditioner. This manual contains useful information for you to maintain, operate, install and safely use your room air conditioner. Your air conditioner cleans, cools and dehumidifies the air in your room to provide you with the ultimate level of comfort.

Please read instructions carefully before using the product. Also, do not forget to fill out and mail the **Product Warranty Card**.

Product Registration

Record Your Model and Serial Number.

For all your service calls during the warranty period , the following information will be needed. Attach the sales receipt to this guide and keep for future reference. This information can be obtained from the serial plate, which is on your air conditioner. This is either on the cabinet (side or back), or you may have to remove the front grille to locate it.
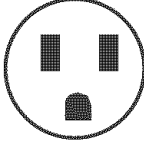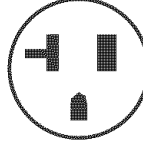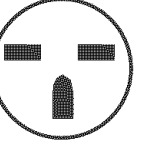
Model Number: _____

Serial Number: _____

Date of Purchase: _____

Dealer's Name: _____

Dealer's Address: _____

Dealer's Phone Number: _____

TABLE					
RECEPTACLE AND FUSE TYPES					
RATED VOLTS	125/60		250/60		
AMPS	15	20	15	20	30
WALL OUTLET					
FUSE SIZE	15	20	15	20	30
TIME DELAY FUSE (or circuit breaker)	Plug	Plug	Plug		

1

SAFETY PRECAUTIONS

WARNING: *Following these basic precautions will reduce the risk of fire, electrical shock, injury or death when using your air conditioner.*
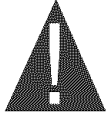
1) The air conditioner must be connected to a proper electrical outlet with the correct electrical supply. *(see table)*

2) Proper grounding must be ensured to reduce the risk of shock and fire. DO NOT CUT OR REMOVE THE GROUNDING PRONG. If you do not have a three-prong electric receptacle outlet in the wall, have a certified electrician install the proper receptacle. The wall receptacle MUST be properly grounded.

3) Do not use if the power cord is frayed or otherwise damaged. Also, avoid using it if there are cracks or abrasion damage along the length, plug or connector.

4) DO NOT USE AN ADAPTER OR AN EXTENSION CORD.

5) When installing your air conditioner in a window, make sure the window is strong enough to hold the weight of the air conditioner. You also want to secure and install your air conditioner properly to prevent it from falling. Extra brackets and/or support may be required depending on your window.

6) Do not block the airflow inside or outside the air conditioner with blinds, drapes, protective covers, shrubs or bushes.

7) Be careful of sharp edges on the front and rear fins of the unit that could cut and cause serious injury.
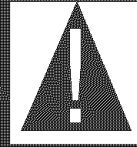
8) Be careful when lifting the air conditioner to install or remove the unit. Always use two or more people for this.

9) Always unplug the air conditioner before servicing it or moving it.
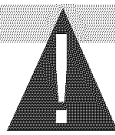
Table Of Contents

WARNINGS ⚠️

Following the safety messages is very important.
These messages can save you from being injured or killed.
Warning symbols alert you to be careful and mean **Danger**. Always
follow instructions to be safe and reduce chances of injury or death.
Warning and **Danger** signs will precede safety messages.

Electrical Safety ⚠️

Grounding: This room air conditioner must be grounded.
Grounding reduces the risk of electric shock by
providing an escape wire for the electric current.
The power cord has a grounding wire with a
grounding plug. Plug it into an outlet that is
properly installed and grounded.

WARNING: Improper use of the grounding
plug can result in a risk of electric shock.
Call a qualified electrician if you don't understand
the grounding instructions,or if you are not
sure if the air conditioner is properly grounded.
If the wall outlet is not grounded, please contact an
electrician to have it replaced with a properly
grounded outlet.

**Do not, under any circumstances, cut or remove the
third (ground) prong from the power cord.**

Adapter Plug: We strongly advise against using an adapter plug.

Important: Test power plug before each use:
1. Press "reset" button.
2. Press "test" button. Unit should trip.
3. Press "reset" button again for use .
Do not use if above test fails.
If this device trips, the cause of the malfunction must
be corrected before further use of the device .

4

Tips

- Air conditioners are designed for use in a double hung window or through the wall installation only. (As applicable in your model)
- While installing unit be sure to tilt air conditioner 5 degrees outward to have the water drip outside the house.
- Install the unit on the north side,as that is normally the shaded side. This will enhance the operation of your unit.
- ⚠ The window has to be strong for installation. Extra brackets and/or support may be required depending on your window. (Brackets and supports not included in all models.)
- Measure the window before installing. If the window is too big for the unit you may require professional installation.
- ⚠ Use the correct electric voltage and proper ampere for the unit to run effectively.
- ⚠ Only let a certified electrician modify your electrical outlet.
- Use a dedicated line for the operation of your air conditioner to avoid the possibility of an electrical surge.

Energy Saving Guide

- When installing your air conditioner,make sure to seal all areas where there is a possibility of air leakage.
- The airflow should not be blocked, either inside by curtains, drapes or furniture,or outside by shrubs or bushes.
- Do not needlessly use an electrical light or other appliances that produce heat.
- Keep the vent closed on the air conditioner when in the cooling function.
- Keep the blinds and drapes drawn on all other windows.
- While cooking,use an exhaust fan in the kitchen to remove the excess heat.
- Always use the correct BTU size air conditioner to cool the room to attain optimum efficiency.

5

Features

side vent
louvers

vent
controller

electronic
touch pad

easy-access
filters
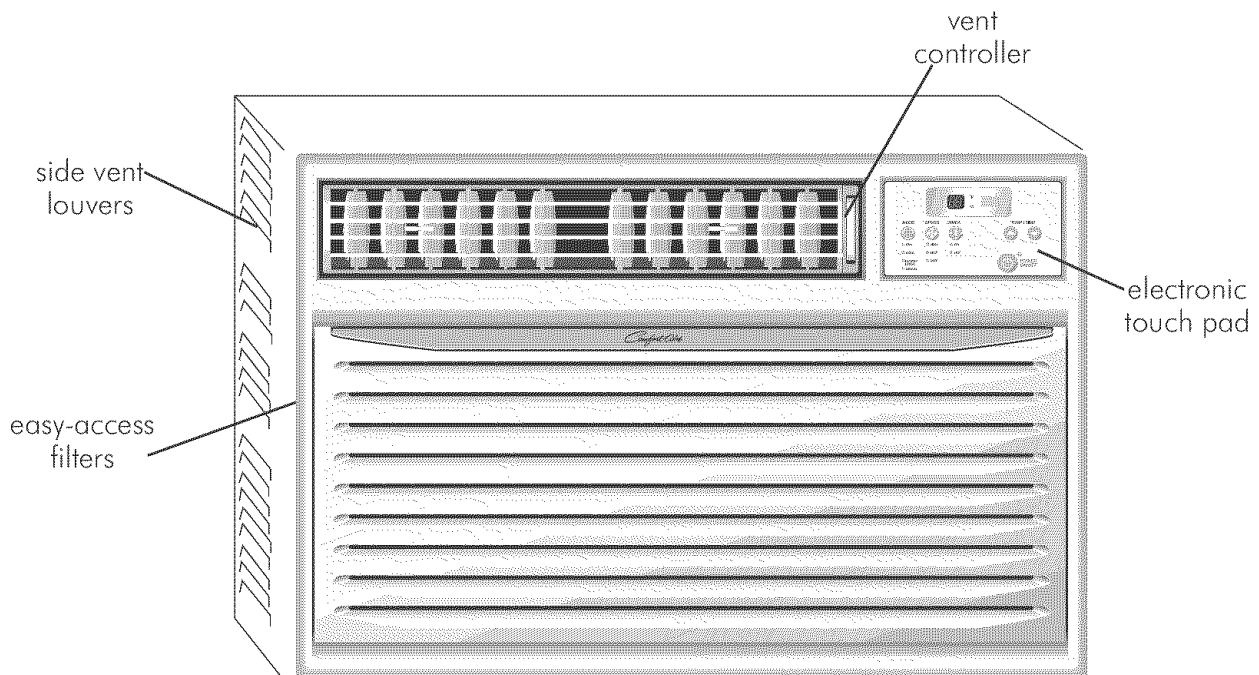
1.Thermostat

This allows you to adjust the temperature of the air--the lower the setting,the cooler the air temperature. With this you can set the temperature to your desired comfort level. You can set the temperature between 61°F and 86° F.

2.Fan Speed

With this you can control the fan speed as well as the A/C (cooling) speed.
You have 3 levels of A/C Speed to set at your desired level. LO will circulate air at the lowest velocity, MED at medium velocity and HIGH will circulate at the maximum, velocity. You have 3 levels of Fan Speed to set at your desired comfort level: HIGH, MED and LOW.

3. Function

Your air conditioner has 4 Functions.
a) COOL
Here the air conditioner will operate the compressor and the desired fan speed set to give you cold air for your comfort.
b) FAN
You can run the fan without the A/C function on cooler days. The fan can be set to run at

3 speeds as desired.
c) DEHUMIDIFY
This enables your air conditioner to operate as a dehumidifier as well. It will remove the excess moisture from the air to keep your room at a comfortable, dry stage. You can use this feature alone in case you do not wish to use the air conditioner.
d) ENERGY SAVER
When this feature is "On" , the fan will shut off three minutes after the compressor cycles off. This will reduce energy consumption and noise. When the compressor turns back on, the fan will turn on at the same time. In the "Off" position, the fan will not shut off when the compressor cycles off.

4.Timer

Your air conditioner can be set to go on or off at your desire. This can be programmed up to 24 hours in advance.

5.4-Way Air Flow

The air directional louvers let you control the direction of the airflow to the desired direction. The airflow can be directed up-down-right side-left side.

6

6.Vent

The Fresh Air vent allows the air conditioner to recirculat inside air, draw fresh air into the room and exhaust stale air to the outside.

7.Slide Out Chassis

Your air conditioner becomes more versatile with this feature. You have the option to install the unit in a window or the wall.

8. Window Install Kit

This kit enables you to install the air conditioner in a double hung window. Extra brackets or support may be needed, depending on your window.

9.Remote Control

This fully functional wireless remote allows you to operate your air conditioner from a distance. You need not get up to change the settings or the functions, or to turn the unit on or off.

10.LED Display Electronic Control Panel

The 4-function LED displays Room Temperature, Temperature Setting, Timer Setting and Time Remaining to Stop/Start the unit. Electronic Control Panel lets you set the temperature to the exact temperature you desire.

11.Electrostatic Filter (not all models)

Being constructed of high efficiency purifying substance, active carbon fabric, electrostatic fabric, electrostatic active carbon net and other materials, this air conditioner purifies the air effectively. Its wavy structure increases the capability to filter dust and smoke effectively. Due to the retention of active carbon, it has a high purifying speed capable of strong airflow.

12. How The Unit Drains

On humid days with the air conditioner in use, moisture may collect on the pan or the bottom of the air conditioner. If the unit is positioned properly, the moisture will gather towards the back of the unit.This will not affect the operation of the unit and the moisture will evaporate in time. Occasionaly the moisture will flow over the back of the pan, but this will not affect the operation of the unit. Never drill holes in the pan under any circumstance.

Operating Guide

Normal Operating Sounds

The following sounds are normally heard during the operation of an air conditioner.

- Cool airflow movement as dictated by the set fan speed.
- Water sounds. This is normal since your air conditioner also acts as a dehumidifier. Thus you will hear water sounds from water drops falling on the condenser.
- As the refrigerant flows through the inner sealed tubing, a rushing noise may be occur.
- Rattling or vibrating noises may be heard due to poor wall or window installation.
- High pitch compressor sound may be heard.

Operating Instructions

The following are the operating instructions of your electronic air conditioner.

**Remote control and control panel operations**

After installing your air conditioner, plug it into the proper electrical outlet in the wall. Keep the vent in the closed position. Now set the air conditioner at your comfort level. This fully functional wireless remote allows you to operate your air conditioner without having to get up and go to the unit. The full function feature allows you to change the settings and turn the unit on or off from the remote itself. This control pad works the same as the control pad on the air conditioner. (See Fig. #1)

Fig. # 1
Remote Control
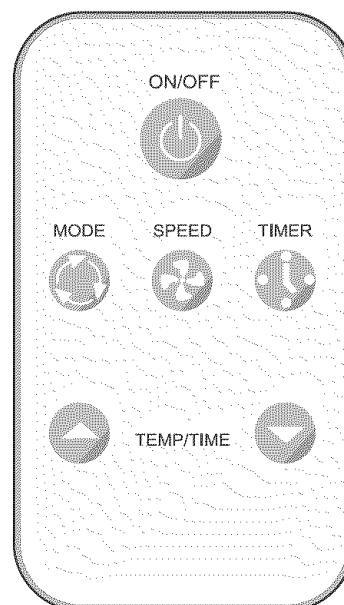
After you plug in the unit, it will perform a self test. All the display lights will turn on for 3 seconds. The LED display will read"88". If any display light fails to turn on you may need service on the unit. After 3 seconds, the unit will automatically go to the stand by mode. Now all lights will be off and you will have to turn"ON" by pressing the On/Off key. After pressing"On/Off", the unit starts to work and enters the status of "Fan" with the low setting. You will have to press the (▲) or (▼) key on the Temp/Time to set the temperature at your desired comfort. You can choose a temperature between 61°F and 86°F. Once the temperature is set you can raise or lower it by pressing the (▲) or (▼) keys.The temperature setting can only be adjusted when the unit is in cooling, energy saver, or dehumidify mode.(See Fig. #2) Having set the temperature, you will set the function of the air conditioner.

Fig. # 2
Control Panel.
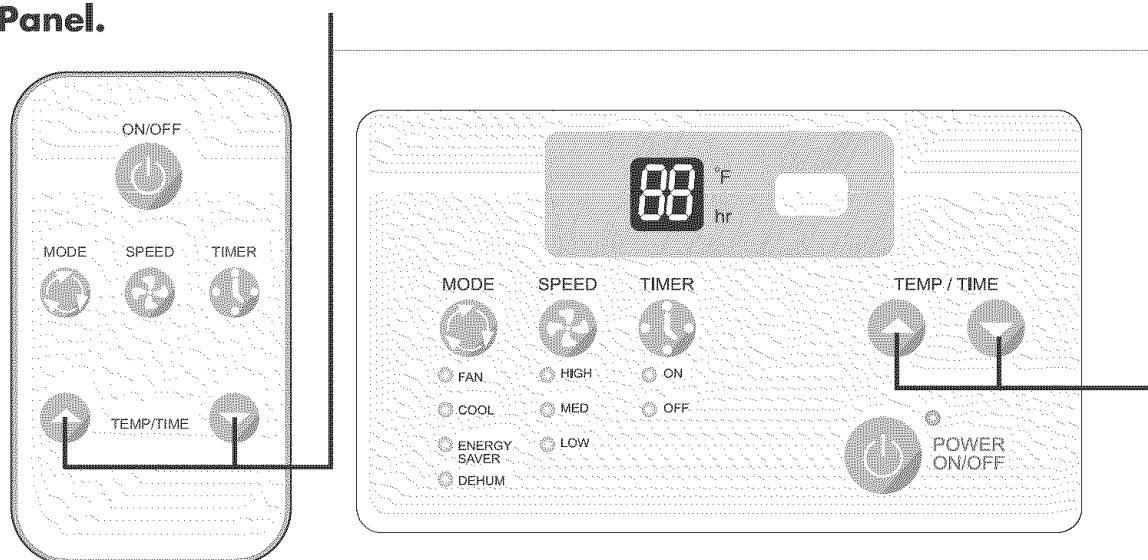
Every time you press the MODE button, it will change between FAN, COOL, ENERGY SAVER and DEHUM. (See fig.#3)

Fig. # 3
Control Panel.
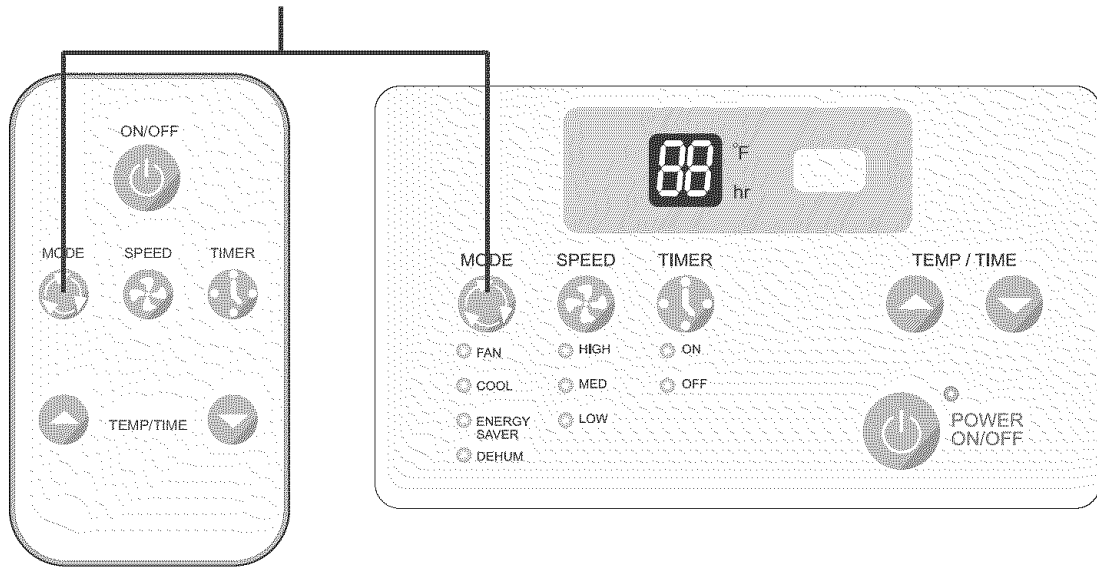
Once the mode function is established, you will have to set the fan speed. (See fig. #4)
Every time you press the SPEED button, fan speed will change between LOW, HIGH and MED.

1) If you choose the COOL mode you can run the fan in one of the 3 speeds: HIGH, MED, or LOW.

2) For cool days you may want to run the "FAN" function. Here the fan runs at one of 3 speeds (HIGH fan, MED fan, LOW fan) as desired by you.

3) The dehumidify function removes excess moisture from the air on excessively humid days.

Tr: temperature inside the room.

Ts: the set temperature.

1) When Tr>Ts+3°F, the compressor will run the fan continuously at the selected speed.

2) When Ts-1°F ¡ Tr ¡ Ts+3°F, the compressor will cycle for 10 minutes on and 6 minutes off.

3) When Tr<Ts-1°F, the compressor will shut off.

The dehumidification process takes place between the set temperature-1 and 3°F above the set temperature.

4) Energy Saver: The unit runs the same as the COOL setting in the ENERGY SAVER mode. But the fan will be off 3 minutes after the compressor cycle off.

Fig. # 4
Control Panel.
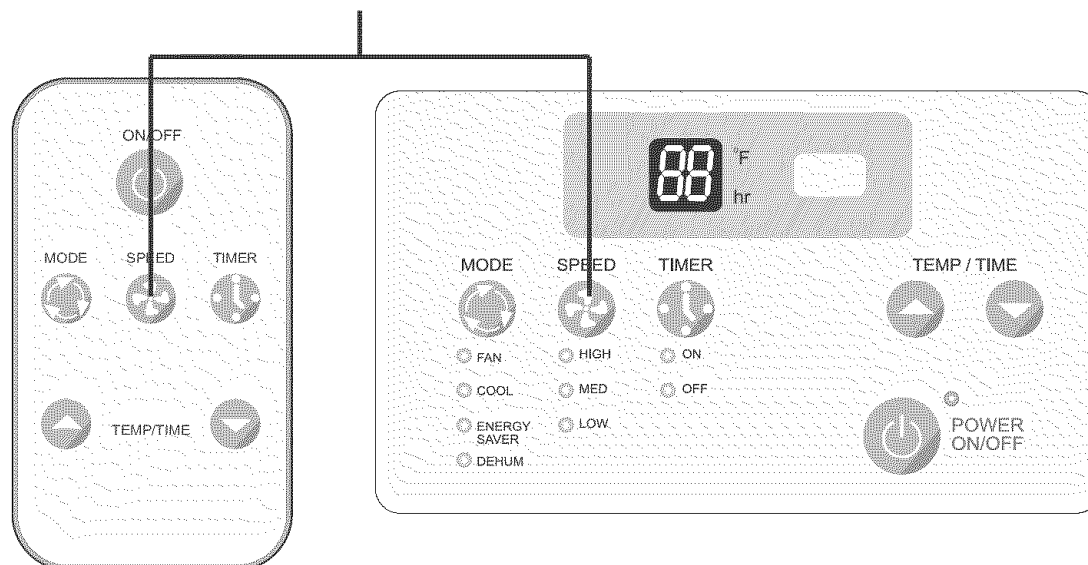
Timer On or Timer Off mode is used to pre-start or shut off your unit in advance. You can program this up to 24 hours in advance. You can use the Timer in 4 functions, i.e. COOL, ENERGY SAVER, DEHUMID or FAN.

● Timer on (See Fig.#5)

The unit must be on to set the timer. Unit will shut down automatically after it accepts the settings in 5 seconds. Use this mode to pre-set the start time of the unit 24 hours in advance.

a) Press TIMER ON. LED display will show "XX" (time set last time). When power is connected for the first time, LED display will show "01".

b) Set the desired number of hours by pressing the (▲) pad of the Temp/Time buttons, once for each hour. If you passed the desired time, use the (▼) pad key to lower the selection.

c) After you set TIMER ON, LED display will show the time. This time displayed means: the unit will starts after X hours.

● Timer off (See Fig. #5)

The unit must be running to set time off. Use this to preset the time you would like the unit to shut off.

a) Press TIMER OFF. LED display will show "XX" (time set last time).When power is connected for the first time, LED display will show "01".

b) Set desired number by pressing the (▲) pad of the Temp/Time buttons, once for each hour. If you pass the desired time, use the (▼) pad key to lower the selection.

c) After you set TIMER OFF, LED display will show the room temperature about 5 seconds later.

When using the timer, the unit will revert to the last COOL and FAN settings when activated. The timer must be reset every time you choose to use it.
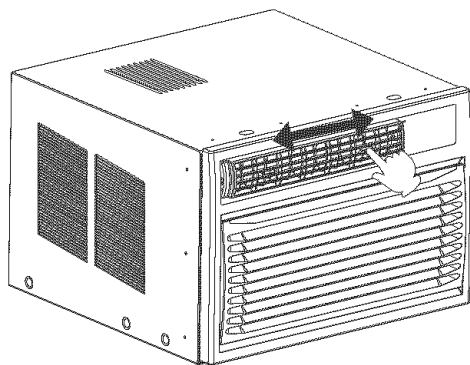
11

Fig. # 5
Control Panel.
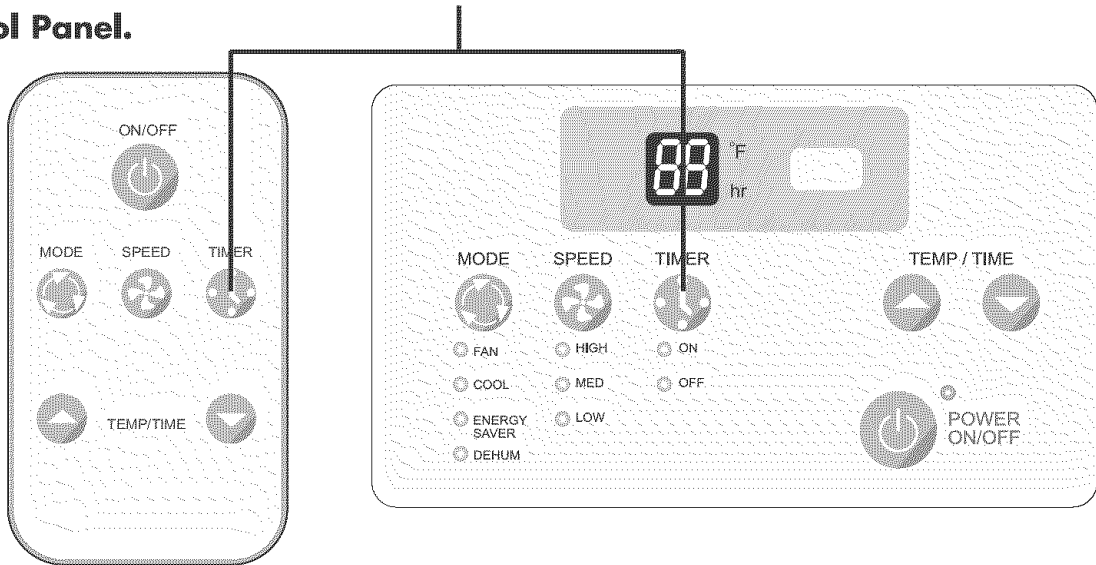
Adjusting the Air Flow Direction

Airflow can be adjusted by changing the direction of the air conditioner's louvers.
This can also increase the cooling efficiency of the air conditioner.

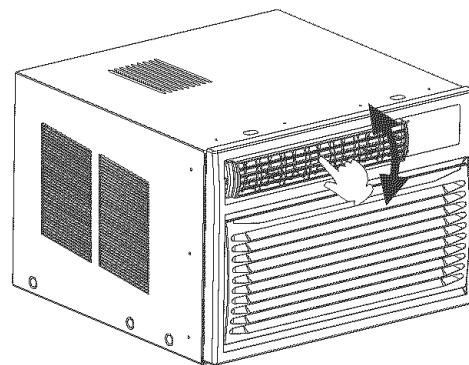### Adjusting Horizontal Air Flow Direction

Adjusting the vertical louvers left and right will change horizontal airflow.

Adjusting Vertical Air Flow Direction

Adjusting the horizontal vane up and down will change vertical airflow. The vane can be adjusted by nudging the back of the vane up and down.

Adjusting Horizontal Air Flow

Adjusting Vertical Air Flow

Recommended orientation of louvers:
Adjust louvers to face upwards when cooling to maximize cooling efficiency.

Installations

Before you install your air conditioner, check the following:

1) The unit is free of all obstructions inside and outside the room, e.g. drapes, curtains, furniture, plants, shrubs, bushes, trees, other structures like buildings, garage, etc. The air conditioner must have a clear, unobstructed airflow through the condenser to remove heat.

2) The window is strong enough to hold the weight of the air conditioner. Extra brackets or supports may be needed depending on your windows. (Brackets or supports not provided in all models)

3) The windowsill and track are strong enough to hold the weigh of the air conditioner.

4) The wall is strong enough to hold the unit. Extra brackets or supports may be needed depending on the wall. (Brackets or supports not provided in all models).

5) There is adequate and proper power supply near the air conditioner.

⚠ 6) DO NOT use adapter plugs.

⚠ 7) DO NOT use extension cords.

⚠ 8) DO NOT cut or remove the ground prong.

⚠ 9) DO NOT modify the plug or the electrical wall outlet in any way. If plug does not fit the electrical outlet have a certified electrician do the necessary change.
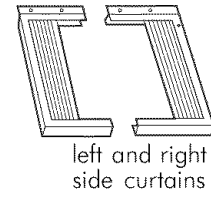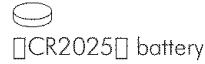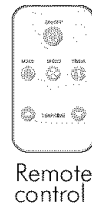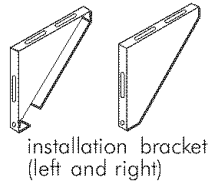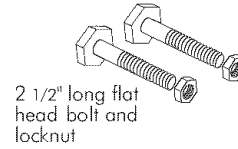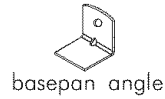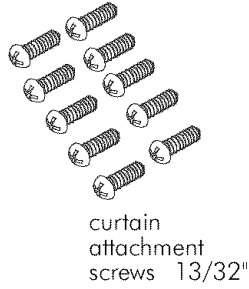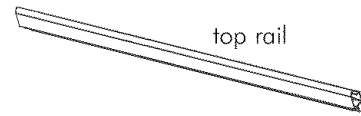
⚠ 10) DO NOT connect electrical power to the unit before installation.

⚠ 11) DO NOT use if power cord is worn out, frayed or otherwise damaged. Avoid using if there are cracks or abrasion damage along the length, plug or connection.

⚠ 12) Be careful of exposed sharp edges of the cabinet and sharp coils (fins) on the back of the unit that could cut and cause serious injury.

Parts

Parts Supplied

window seal gasket

wood screws 31/32"

top rail

basepan angle

19/32" long screw and locknut

2 1/2" long flat head bolt and locknut

curtain attachment screws 13/32"

installation bracket (left and right)

Remote control

CR2025 battery

left and right side curtains
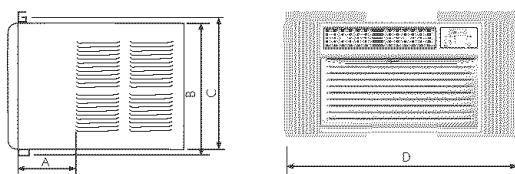
Model: RADS-181A

Tools

You will need to have the following tools to help you in the installation of your air conditioner.

- Scissors
- Phillips Screwdriver
- Standard Screwdriver
- Pliers
- Wrench
- Drill and Drill Bits
- Tape Measure
- Gloves
- Level
- Sockets

14

Installing Unit into A Window

Window Opening Requirements

The air conditioner is designed to fit into double or single hung sash type windows. Each of the units comes with an installation kit that provides adjustable mounting louvers to fill the gaps between the sides of the unit and the window frame. The chart below reflects the dimensions of the units with and without installation kits. Measure your window opening width and compare it to the chart below to ensure that it meets the minimum and maximum window width requirements.

RADS-181A

| Model Dimension	RADS-181A
A(inch)	$11\frac{2}{5}$"
B(inch)	$18\frac{3}{5}$"
C(inch)	$20\frac{1}{4}$"
D(inch) Max	40 "
D(inch) Min	30 "
Case High	$18\frac{21}{32}$"
Case Width	$26\frac{9}{16}$"
Case Depth	$25\frac{2}{3}$"

1 PREPARE UNIT FOR INSTALLATION

Unpack unit on the floor next to installation location.
Remove two front attachment screws.
Separate the outer case from the front with a putty knife at the catch points designated by the arrows.
Remove the two screws on top of the outer case.
Using the basepan handle, slowly and evenly pull chassis out from outer case.
Note: Cover putty knife blade with masking tape to guard against damage of the unit finish.
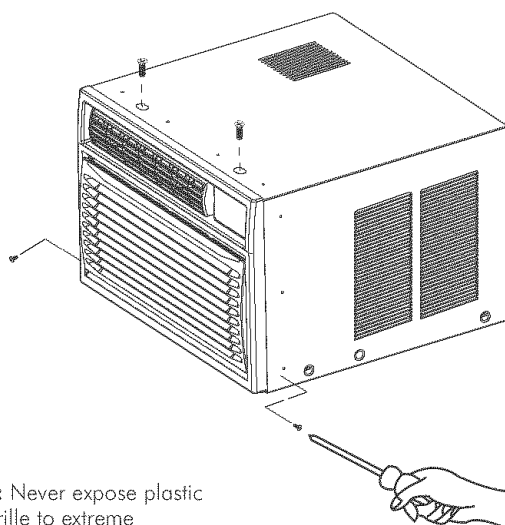
Caution: Never expose plastic front or grille to extreme temperatures.

2 ASSEMBLE CURTAINS/TOP RAIL

Install top rail with four 13/32" screws. Slide left-hand curtain assembly into left end of top and bottom rails. Repeat for right-hand curtain assembly. Fasten curtain retainer strips to the sides of the outer case with six 13/32" screws.
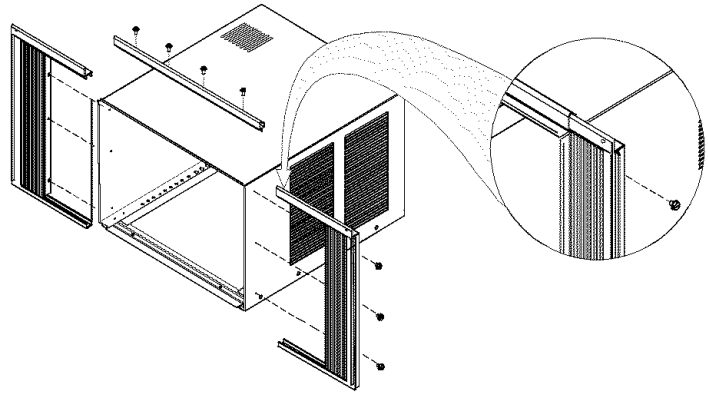

3 PREPARE WINDOW FOR INSTALLATION

Inspect window track, sash, and sill for its ability to support the weight of air conditioner.

Measure the width between the window moldings to ensure the Instant Mount will fit the window frame. Instant Mount models are designed for windows wide (for details see page 15)

The instant Mount kit supplied with unit is designed for mounting in most double-hung windows **without storm windows.**For installation in window frame with storm window, modify sill by adding wood strips(not included) to inner and outer sills. This raises the unit and eliminates interference of storm window frame.

Storm window installation

If storm window frame does not allow adequate clearance below sill (1/2" required), remove storm window frame or create clearance by adding a wood strip (at least 1 1/2" wide) along entire width of sill. Fasten wood strip to sill with at least three countersunk wood screws (not supplied with kit). This provides a smooth surface for mounting air conditioner.
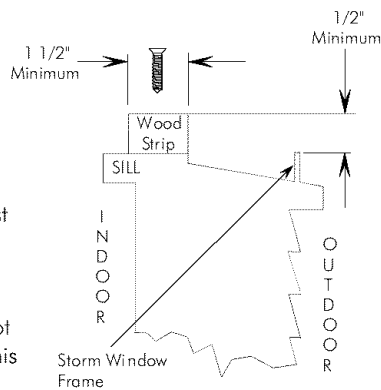

Mobile home window installation

Add wood strip (at least 1 1/2" wide) along entire width of window sill. Thickness of wood strip should match height of front lip on window frame. Fasten wood strip to sill with a minimum of three countersunk wood screws (not supplied with kit). This provides a smooth surface for mounting air conditioner.


16
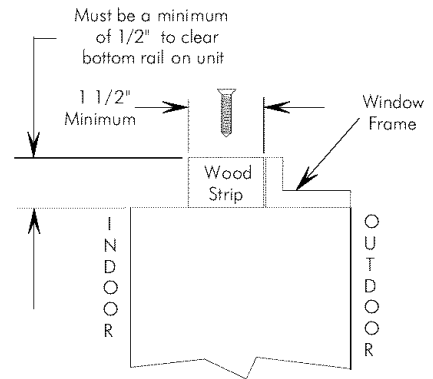
4 INSTALL OUTER CASE IN WINDOW

Place outer case in window. Lower sash until it rests behind front flange of top rail. Bottom rail must rest behind window sill.

Top rail

Window sash

About 5□

SILL

Bottom rail

Curtain assembly cut away for clarity.
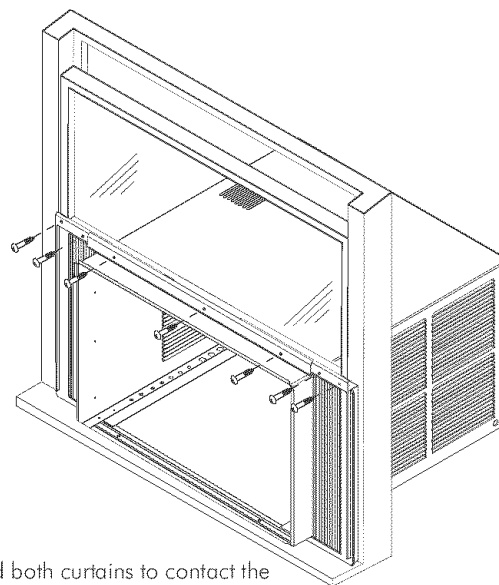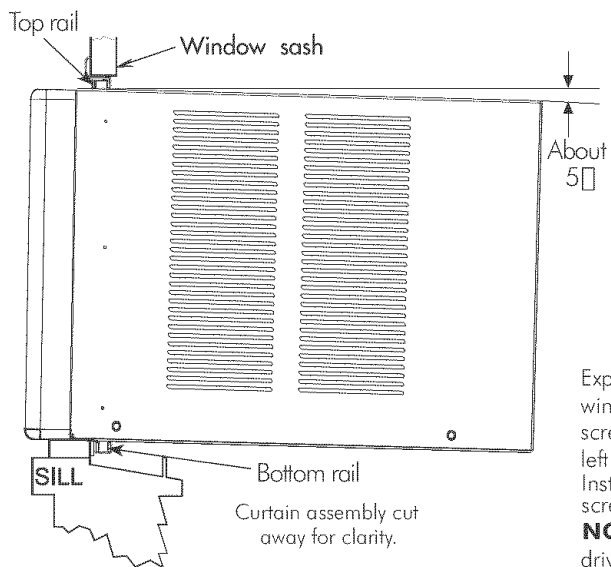
Expand both curtains to contact the window frame. Install four wood screws 31/32". Two in each upper right and left of the curtains.
Install three wood screws 31/32" top mounting rail screws.
NOTE: To make screws easier to drive, drill a pilot hole into the sash through clearance hole in curtains.

Use two wood screws 31/32" to fix the case to windows sash. Install left & right installation bracket and as shown in fig. Install bolt(2 1/2" long flat head bolt and locknut) to the installation bracket and adjust them to proper length ,then use 4 (19/32")screws to fix the bracket on the case.
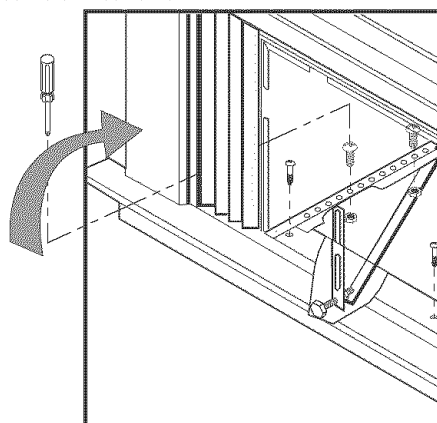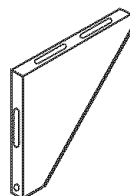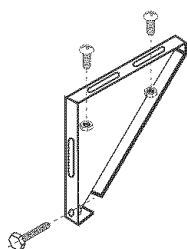
5 INSTALL SASH BRACKET & SEAL GASKET

Install sash bracket on top of indoor window sash with one wood screw 31/32" to prevent raising of window from the outside. Screw the anchor directly into the side of window frame. For hard wood or metal window frames, drill a pilot hole to start the screw.

Important:Be careful not to drill the pilot hole too deep. Add a piece of tape to the drill bit as a depth gauge. Also stay clear of glass. Be careful not to damage the function of the window.

Cut window seal gasket to width of window. Stuff window seal strip between the outdoor window glass and the top of the indoor sash. This will stop air leakage which reduces efficiency.
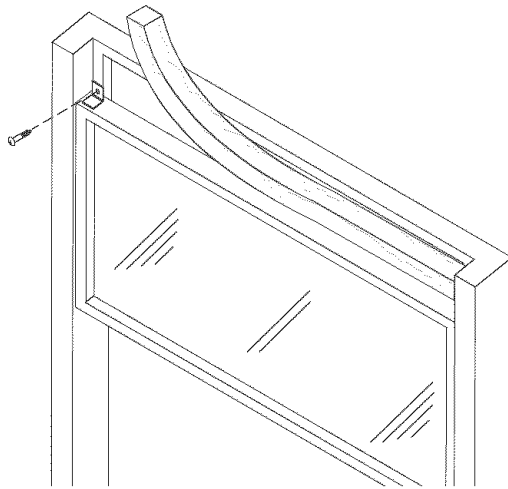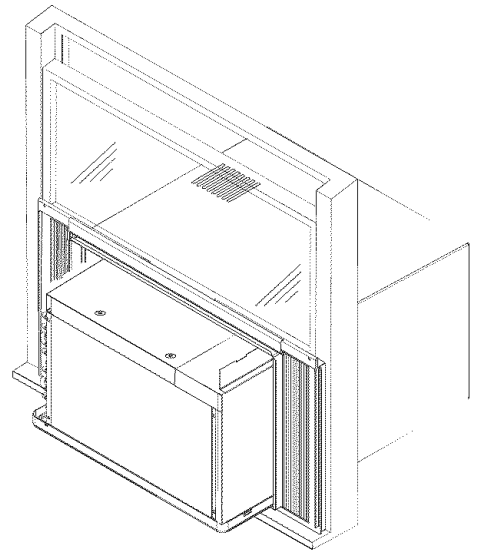
6 RETURN CHASSIS TO THE OUTER CASE

Find someone to help you replace the chassis in outer case. Replace front panel and grille.

Caution:
For security purposes, reinstall screws at cabinet's sides, removed in step one.

IMPORTANT:
Because the window sash helps keep the unit in window, make certain the window sash contacts the outer case before reinstalling the chassis.

Wall Installations: slide-out chassis only

> Note: Remove the 2 shipping screws on the top of the air conditioner
> that hold the chassis to the outer shell casing. Once removed,
> these do not have to be re-installed. To ensure that your air
> conditioner is properly installed in the wall, it is recommended
> that it be installed by a certified technician who is familiar with
> through the wall installations.

1) Using wood, 1" or more in thickness, build a wooden frame to fit the
casing/cabinet dimensions of the unit which you have purchased.

2) Measure the outside width and the height of the frame to determine the
cutout dimensions necessary for the opening in the wall. The depth of the
frame will depend on the depth of the wall. The finished frame must be set
in the inside wall. The frame has to be squared and leveled. Remember the
frame has to be nailed securely to the wall studs. (See Fig. # 19)

wall
stud

frame or
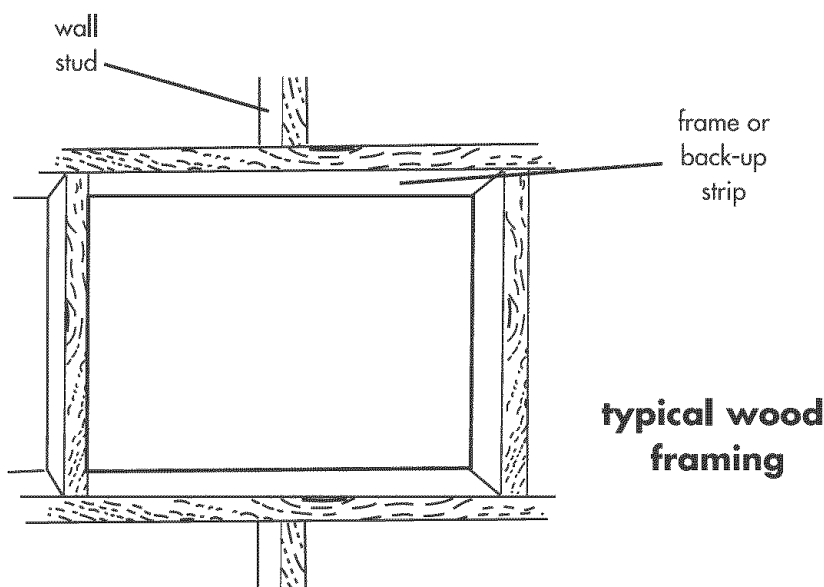back-up
strip

Fig. # 19

**typical wood
framing**

3) Now to install, insert the casing into the wall opening. (Remove the
chassis out first following steps 1 – 6 in Slide-out chassis section).
Make sure that the cabinet is at least 1/2" inch inside the room. Also the
side louvers should not be blocked. This is to have proper air circulation in
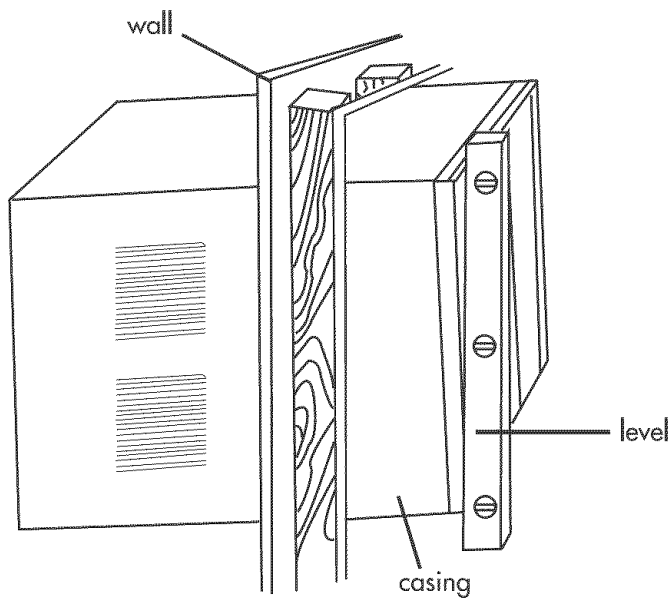and around the compressor. (See Fig. # 20)

19

wall

Fig. # 20

**typical casing
outward tip**

level

casing

4) The casing should be tilted 1/4" outside so as to drain the excess dehumidified water.

5) Properly insulate any opening between the casing and the frame.

6) Using the screw holes on the sides of the unit, which are for the window mounting kit and the screw holes in the top mounting kit rail, attach the casing to the wood frame.

7) With the help of another person lift and put the chassis of the air conditioner in to the casing.

8) Screw the security screw into place and snap on the grille.

9) If the filter was removed during this process, reinsert the filter.

Care and Cleaning Guide
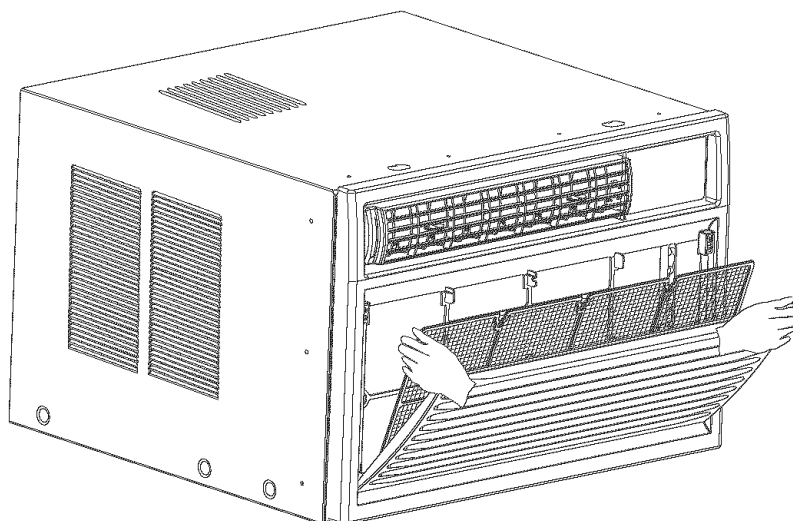
• **Always unplug your air conditioner before cleaning.**

• The air filter behind the inlet grille should be checked and cleaned at least once every 2 weeks (or as necessary) to maintain optimal performance of the air conditioner.
How to remove the air filter:
1. The grille may be opened from the top for easy maintenance after installation.
2. Open the inlet grille by pulling off the exposed door on the top of the unit (based on the installation).
3. Pull the tab slightly to release the filter. Pull the filter in the same direction as the opening.
4. Clean the filter with warm, soapy water. The water should be below 40°C(104°F).
5. Rinse off and gently shake off excess water from the filter. Let it dry before replacing it.
DO NOT use your air conditioner without the air filter in place.

• **To clean the front panels or the cabinet DO NOT use harsh chemicals, abrasives, ammonia, chlorine, bleach, concentrated detergents, solvents or metal scouring pads.** Some of these chemicals may dissolve, damage and/or discolor your air conditioner.

• **Always use a soft cloth dampened with water or mild soap and water solution to wipe the front if the cabinet.**
Wipe dry with a soft cloth.

- To store your air conditioner, after the season, remove the unit from the window as per the installation guide. Repack the unit in its original box and store away. If your unit is installed in a wall or you do not intend to remove it from the window then cover the outside with a winter cover. This can be purchased from the retailer where you purchased your air conditioner or from your local hardware store.

- Before putting away your unit make sure any water left in the pan is removed and drained away. Water left in the pan could lead to rusting or damage to the electrical connections.

Trouble-Shooting

If air conditioner does not operate:
- Check if unit is plugged in. The plug may have come loose.
- Check if the unit is in the "Off" mode.

Air from air conditioner is warm:
- The A/C setting may need to be raised.

Ice formation on cooling coils:
- The outside temperature too cold. Set the unit on "fan only" setting to defrost ice.
- Lower temperature setting. The temperature setting may be too cold.
- The unit BTU may be too high for the room.

Air conditioner is working but room is not cooling:

- The room may have appliances that produce heat. Use an exhaust fan to remove excess heat.
- Redirect the airflow. Remove any obstacles.
- All doors and windows need to be closed so cool air does not escape the room.
- The air filter may need cleaning.
- The unit BTU may be too low for the required cooling area.
- On extreme hot & humid days , air conditioners may take a little longer to cool.
- Vent may be in the open position. Vent has to be closed for optimum cooling.

Air conditioner is making noise when cooling:

You may hear sounds of air movement, water, compressor clicking on and off or window vibrations. Please read Operating Guide – Normal Operating Sounds. (see page 8)

Water in the air conditioner cabinet:

This is normal , as your air conditioner not only cools but also dehumidifies the air. If there is water dripping inside the room, check the installation of the unit. The unit may need to be reinstalled. (see page 17)