

PERFECT COMFORT

**Thru-the-Wall
Room Air Conditioner
with optional Electric Heat
and Heatpump**

Installation Instructions and Owner's Manual

This manual must be left with the owner
of the equipment.



Model :

NTB0910C4T

NTB0923C4T

NTB1223C4T

NTB0911H3G

Thank you for selecting NRG Equipment.

To ensure proper operation, please read this manual & keep it for future reference.

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WARNING

HIGH VOLTAGE!

Disconnect ALL power before servicing or installing. Multiple power sources may be present. Failure to do so may cause property damage, personal injury, or death.



RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

ATTENTION INSTALLING PERSONNEL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is your responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

IMPORTANT NOTE TO THE OWNER

This equipment is to be serviced by professionally trained personnel only. If this equipment is improperly installed, adjusted or altered by an unqualified person, a safety hazard may result.

IMPORTANT NOTE TO THE SERVICER

Read this manual and familiarize yourself with the specific items which must be adhered to before attempting to service this unit. The precautions listed in this manual should not supersede existing practices but should be considered as supplemental information.

Transportation Damage

All units are securely packed in shipping containers approved by the National Safe Transit Association. The carton should be checked upon arrival for external damage. If damage is found, immediately make a written request for inspection by the carrier's agent.

In the event of damage:

1. Note on the delivery receipt any visible damage to shipment or container.
2. Notify carrier promptly and request an inspection.
3. File the claim with the following supporting documents within the six month statute of limitations.
 - a. Original Bill of Lading, certified copy, or indemnity bond.
 - b. Original paid freight bill or indemnity.
 - c. Original invoice or certified copy, showing trade and other discounts or reductions.
 - d. Copy of the inspection report issued by carrier's representative at the time damage is reported to the carrier.

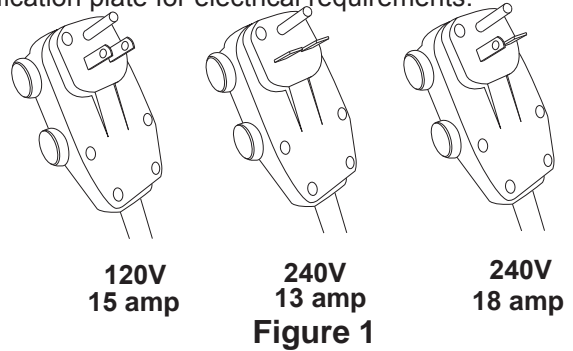
The carrier is responsible for making prompt inspection of damage and for a thorough investigation of each claim. The distributor or manufacturer will not accept claims from dealers for transportation damage.

Unpacking The Unit

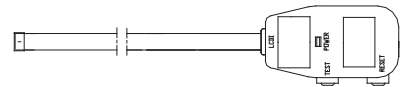
1. Cut the carton banding and open the carton.
2. Remove the literature, hardware pack, upper styrofoam shipping blocks, and styrofoam corner posts.
3. Remove the front assembly.
4. Lift the unit from the remaining carton.
5. Dispose of the cardboard and styrofoam at an approved Recycle Center. Check all contents for damaged or missing parts. In case of concealed damage, notify the carrier as soon as possible—preferably within 5 days. Refer to step 3 of the *Transportation Damage* section if damage or missing parts are noted.

Operating Instructions

Check the data specification plate and ensure the proper voltage and current rating for the type of power plug on the unit is available. **DO NOT REMOVE THE GROUNDING PRONG FROM THE POWER CORD** See Figure 1 for the types of acceptable plugs. Do not use an extension cord for the installation of this product. Refer to the data specification plate for electrical requirements.



- **LCDI or AFCI Power Cords** - Underwrites Laboratories and the National Electric Code (NEC) now require power cords that sense current leakage and can open the electrical circuit to the unit on units rated at 250 volts or less. In the event that unit does not operate, check the reset button located on or near the head of the power cord as part of the normal troubleshooting procedure.



LCDI power Cord

VOLTAGE MEASUREMENTS

Before connecting the unit, measure the supply voltage. Voltage must fall within the voltage utilization range given in Table 1.

Operating Voltage		
Unit Voltage Rating	Voltage Utilization Range	
	Minimum	Maximum
230/208	187	253
115	103	126

**Table 1
Operating Voltage**



WARNING

To prevent electrical shock, property damage, personal injury, or death, do not remove grounding prong from plug. Follow all operating instructions.

Installation Instructions

To ensure that the unit operates safely and efficiently, it must be installed, operated, and maintained according to these installation and operating instructions and all local codes and ordinances, or, in their absence, with the latest edition of the National Electrical Code. The proper installation of this unit is described in the following sections. Following the steps in the order presented should ensure proper installation.

SLEEVE INSTALLATION

In order for condensate water to drain properly inside the unit, the sleeve must be installed properly:

- Level from right to left.
- A slight downward pitch from the indoor side to the outdoor side as shown in Figure 3.

Refer to the Installation Instructions supplied with the wall sleeve for a complete description of the installation procedure.

NOTE: Wall sleeve (PBWS01A) is not shipped with chassis and must be purchased separately.

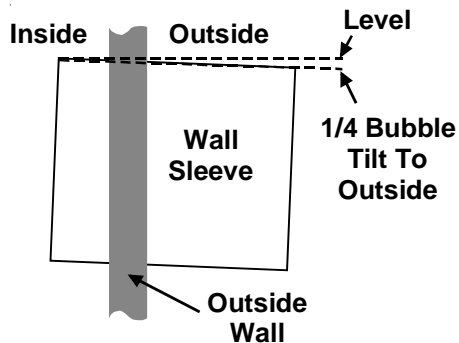


Figure 2

CHASSIS INSTALLATION

1. Remove front grille. See Figure A.

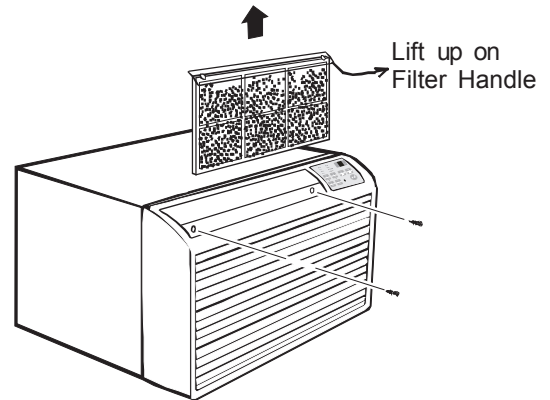
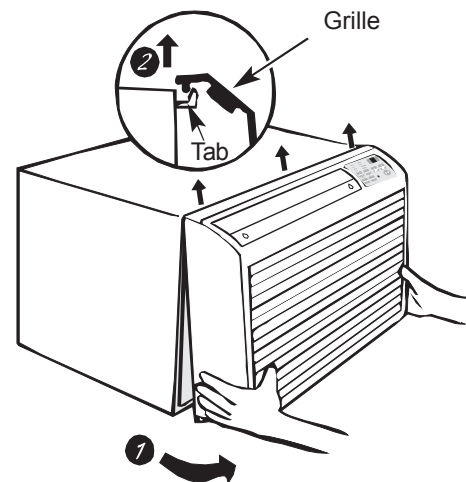


Figure A

The front grille can be removed for more thorough cleaning or to make the model and serial numbers accessible. To remove, pull the filter out and remove the two grille screws



Pull the grille out from the bottom and lift up from the tabs on the top of the case.

2. Remove the grounding screw and wire next to the grounding symbol on right side of chassis control panel (Figure 3). Attach other end of ground wire to the hole in the bottom right side of the sleeve with #8 x 3/8" blunt point sheet metal screw. The hole on the sleeve is indicated by grounding symbol on the sleeve. Slide chassis part of the way into the sleeve and reattach the ground wire back to the hole on the right side on the control panel area next to the grounding symbol.

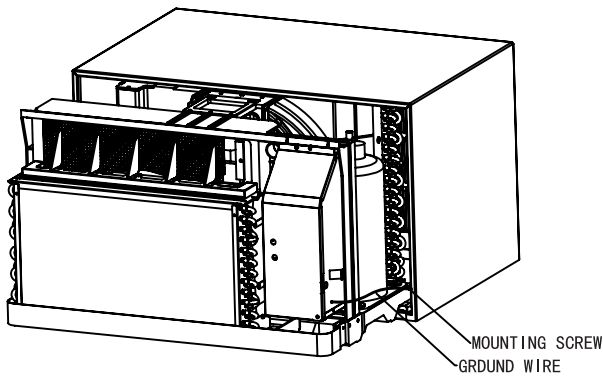


Figure 3

3. Remove shipping pads inside air conditioner next to compressor. (See Figure B.)

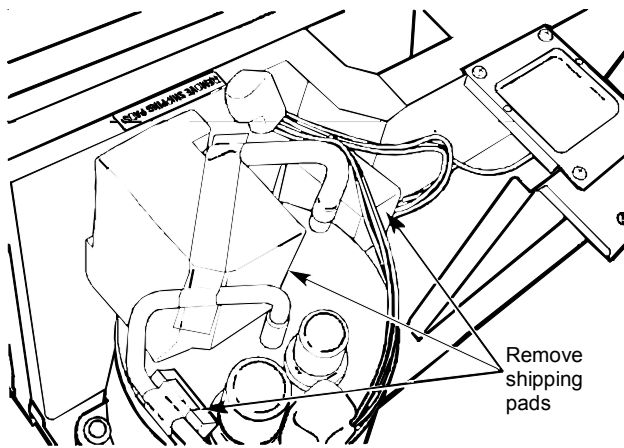


Figure B

4. Carefully slide the chassis into the sleeve. Ensure that the ground wire is not pinched or in the path of the condenser fan.
5. Loosen locking plate screw and rotate tab with tab behind wall case flange (See Figure C) then tighten locking plate screw.

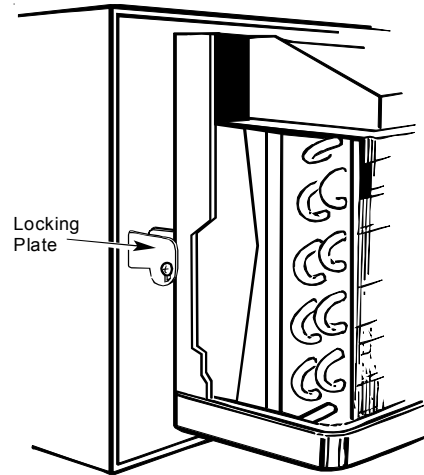


Figure C

6. If outlet is on the left side of the unit, route power cord as shown in Figure D.

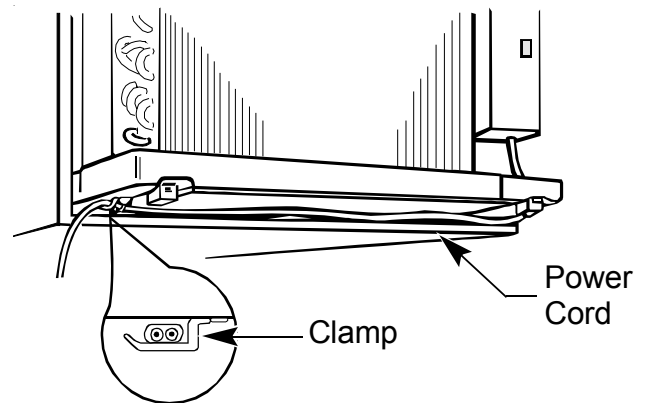


Figure D

To replace front grille:

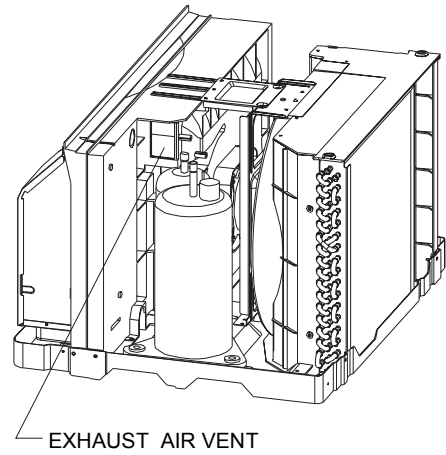
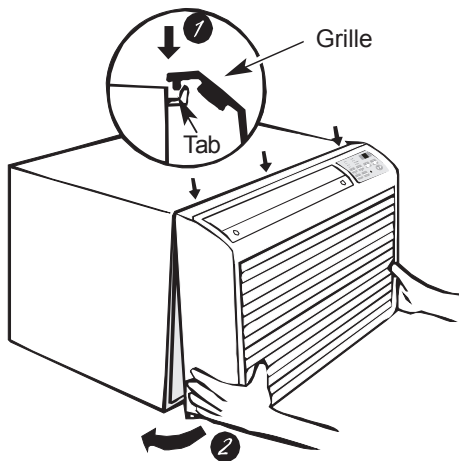


Figure 4

Hook the tabs on the front grille even with the tabs on the case and snap into place. Replace the screws and filter. Refer to Page 4, Figure A.

AIR DIRECTION:

Horizontal louvers on the front grille let you control the air direction up and down.

VENT CONTROL AND AIR DIRECTION (See Figure E)

The vent control is located behind the front grille on the right side of the air discharge area. When set at **CLOSE** only the air inside the room will be circulated and conditioned. When set at **OPEN**, some inside air is exhausted outside.

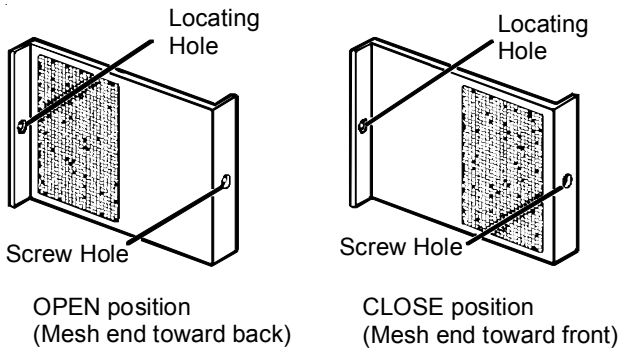
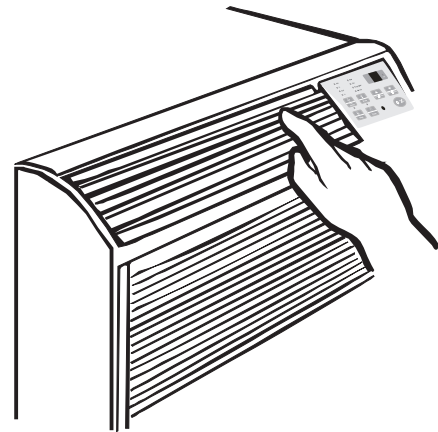


Figure E

To open or close the vent:

1. Remove the front grille.
2. Remove the vent card screw.
3. Remove the vent card, turn it over and replace it by locating rear hole in card over locating pin inside air discharge and reattaching screw at front.

Remove the front grille to adjust the vertical louvers side-to-side to direct the air left or right.

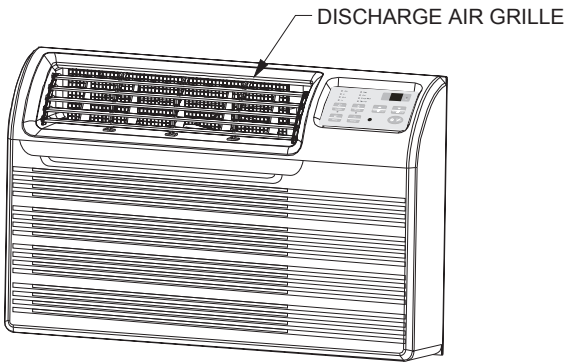
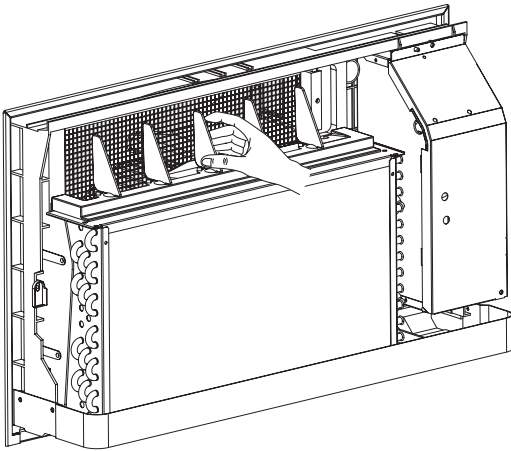


Figure 5

IMPORTANT NOTES:

1. The unit is equipped with a rubber-grommet-mounted compressor. These grommets are factory set and require no adjustment.
2. Obstruction to air flow must be checked and removed. Check the indoor and outdoor grilles for obstructions. The unit must be located where curtains, furniture, trees, or other objects do not block air flow to and from the unit. If air is obstructed and/or deflected back into the unit, the air conditioner's compressor may cycle on and off rapidly. This could cause damage to the compressor.

Wiring

Before wiring the unit, please review the following warnings and cautions.

! WARNING

To avoid the risk of electrical shock, personal injury or death, do not service this unit without first opening all disconnects and/or removing the unit cord set plug from the wall outlet.

! WARNING

To avoid the risk of electrical shock, personal injury, or property damage, do not use an extension cord with this unit.

! WARNING

To avoid the risk of fire, property damage, or personal injury, use only copper conductors.

! WARNING

To avoid the risk of personal injury, wiring to the unit must be properly polarized and grounded.

! WARNING

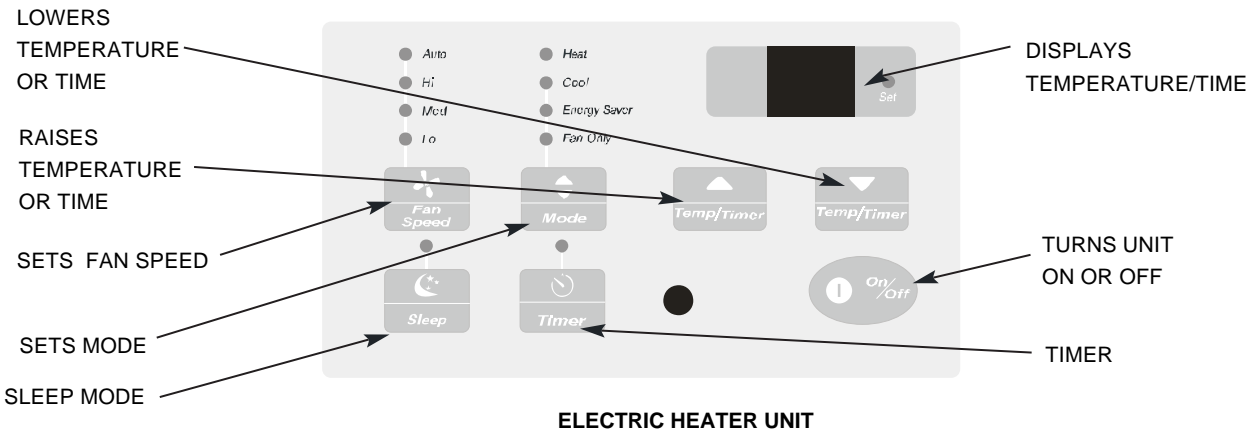
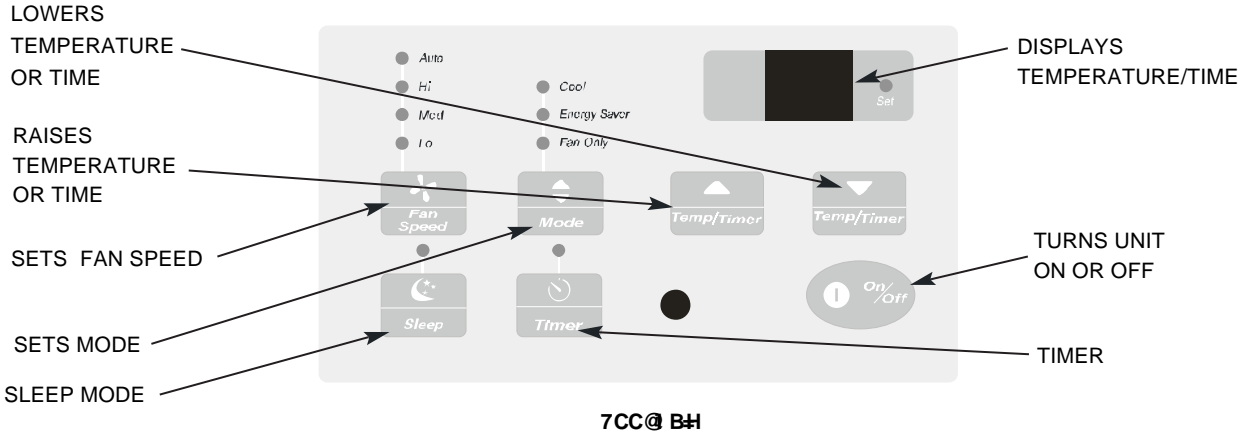
This air conditioner is not meant to provide unattended cooling or life support for persons or animals who are unable to react to the failure of this product.

The failure of an unattended air conditioner may result in extreme heat in the conditioned space causing overheating or death of persons or animals. Take proper precautions to avoid unattended operation.

Air Conditioner Features

ELECTRONIC CONTROL OPERATING INSTRUCTIONS

Before you begin, thoroughly familiarize yourself with the control panel and remote as shown below and all its functions. Then follow the symbol for the functions you desire. The unit can be controlled by the touch pad alone or with the remote.



Air Conditioner Features

Note: Be sure that there are no obstructions between receiver and remote controller; Don't drop or throw the remote control; Don't let any liquid in the remote control and put the remote control directly under the sunlight or any place where is very hot.

Signal transmitter



Remote control

ON/OFF

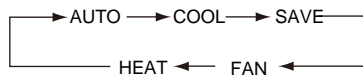
ON/OFF button

- Press this button, the unit will be turned on, press it once more, the unit will be turned off. When turning on or turning off the unit, the Timer, Sleep function will be canceled, but the presetting time is still remained.

MODE

MODE button

- Press this button, Auto, Cool, Save (Energy Saver), Fan, Heat mode can be selected circularly. Auto mode is default while power on. Under Auto mode, the temperature will not be displayed; Under Heat mode, the initial value is 28°C (82°F); Under other modes, the initial value is 25°C (77°F).



- AUTO
- COOL
- SAVE
- FAN
- HEAT (Only for cooling and heating unit.)

SLEEP

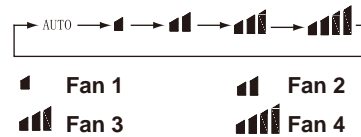
SLEEP button

- Press this button, Sleep On and Sleep Off can be selected. After powered on, Sleep Off is defaulted. After the unit is turned off, the Sleep function is canceled. After Sleep function set up, the signal of Sleep will display. In this mode, the time of timer can be adjusted. Under Fan and Auto modes, this function is not available.

FAN

FAN button

- By pressing this key, you may select AUTO, FAN 1, FAN 2, FAN 3 or FAN 4, and may also cycle between them. FAN 4 only in cool, save and heat mode. After being energized, AUTO is defaulted.



SWING

SWING button

- Press this key to activate or deactivate the swing.

Air Conditioner Features

Notice: This is a general use remote controller, it could be used for the air conditioners with multifunction; For some function, which the model doesn't have, if press the corresponding button on the remote controller that the unit will keep the original running status.



Remote control

+

+ button

- For presetting temperature increasing. Press this button, can set up the temperature, when unit is on. Continuously press and hold this button for more than 2 seconds, the corresponding contents will be changed rapidly, until unpress the button then send the information, °C (°F) is displaying all along. In Auto mode, the temperature can not be set up, but operate this button can send the signal. Centigrade setting range :16-30; Fahrenheit scale setting range 61-86.

-

- button

- Presetting temperature can be decreased. Press this button, the temperature can be set up, continuously press this button and hold for two seconds, the relative contents can quickly change, until unhold this button and send the order that the °C (°F) signal will be displayed all the time. The temperature adjustment is unavailable under the Auto mode, but the order can be sent by if pressing this button.

TIMER

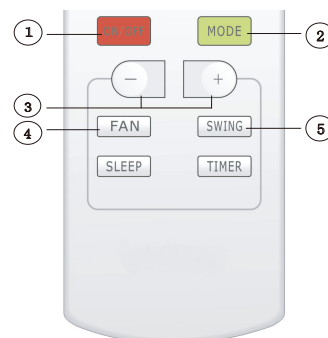
TIMER button

- By pressing this key under switch-off state, you may set the time for auto switch-on. The range of setting is 0.5 ~ 24 hours. The characters "T-ON" and "H" will flash for 5 seconds. Within 5 seconds, you may make one press of this key to complete the setting and send the message. If the setting is valid, the set time will be displayed for 2 seconds before display of the temperature message. During flash, you may press "+" key to increase the value and press "-" key to decrease the value. The time will increase or decrease by 0.5 hours with each press of this key. If pressing "+" or "-" key continuously, the time value will change rapidly. The remote controller can increase the set time by 0.5 hours every 0.25 seconds. After being energized, the fault is no timer setting, and there is no display of "T-ON" or "H". Press ON/OFF key to switch on the unit and cancel the auto switch-on. When the temperature display becomes constant, you may press this key again to display the remaining set time. The time value, "T-On" and "H" will display constantly for 2 seconds. After 2 seconds, the preset temperature will be displayed. Within these 2 seconds, you may press this key again to cancel the auto switch-on and send the message.
- By pressing this key under switch-on state, you may set the time for auto switch-off. The method of setting as the same as for auto switch-on.

Air Conditioner Features

Guide for operation- General operation

1. After powered on, press ON/OFF button, the unit will start to run. (Note: When it is powered off, the guide louver of main unit will close automatically.)
2. Press MODE button, select desired running mode, or press COOL or HEAT mode to enter into the corresponding operation directly.
3. Pressing + or - button, to set the desired temperature. (It is unnecessary to set the temp. at AUTO mode.)
4. Pressing FAN button, set fan speed, can select AUTO, FAN 1, FAN 2, FAN 3 or FAN 4.
5. Pressing SWING button, to select the swing.



Guide for operation- Optional operation

1. Press SLEEP button, to set sleep.
2. Press TIMER button, can set the scheduled timer on or timer off.

Introduction for special function

★ About AUTO RUN

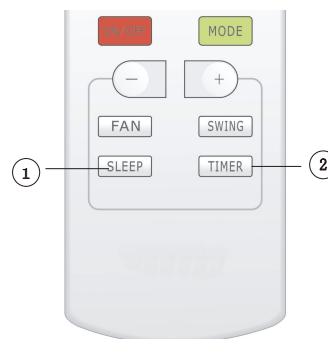
When AUTO RUN mode is selected, the setting temperature will not be displayed on the LCD, the unit will be in accordance with the room temp. automatically to select the suitable running method and to make ambient comfortable.

★ About LOCK


Under switch-on or switch-off state, you may hold "+" and "-" key simultaneously to lock and unlock the keypad. When locked, the display will show the LOCK icon, in which case the lock icon will flash three times upon operation of any key. After the keypad is unlocked, the lock icon on the display will be hidden. After being energized, the default is unlock.

★ About switch between Fahrenheit and Centigrade

Under switch-off state, you may hold "-" and "MODE" keys simultaneously to switch between °C and °F.

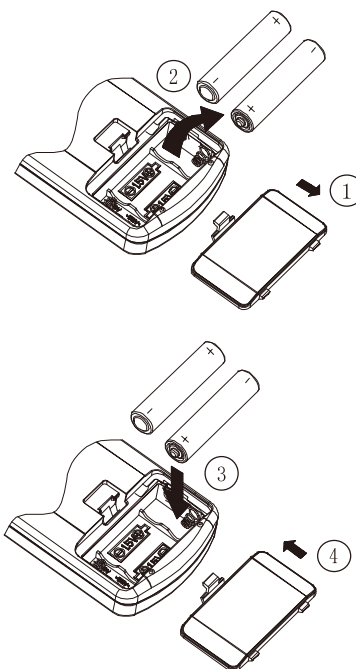


Changing batteries and notices

1. Slightly to press the place  to take out the back cover of wireless remote control. (As shown in figure)
2. Take out the old batteries. (As show in figure)
3. Insert two new AAA1.5V dry batteries, and pay attention to the polarity. (As show in figure)
4. Attach the back cover of wireless remote control. (As show in figure)

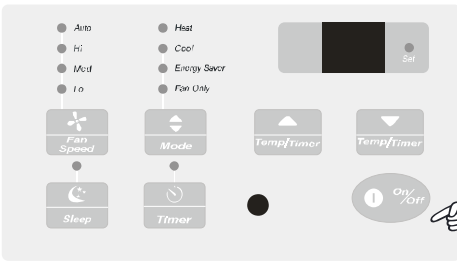
★ NOTE:

- When changing the batteries, do not use the old or different batteries, otherwise, it can cause the malfunction of the wireless remote control.
- If the wireless remote control will not be used for a long time, please take them out, and don't let the leakage liquid damage the wireless remote control.
- The operation should be in its receiving range.
- It should be placed at where is 1m away from the TV set or stereo sound sets.
- If the wireless remote control can not operate normally, please take them out, after 30s later and reinsert, if they cannot normally run, please change them.



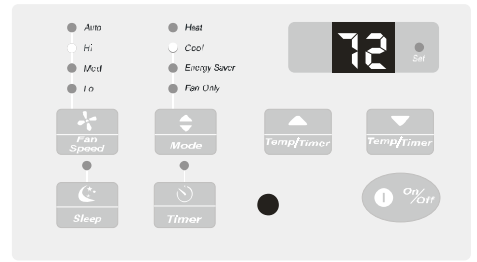
Air Conditioner Features (continued)

TO TURN UNIT ON:

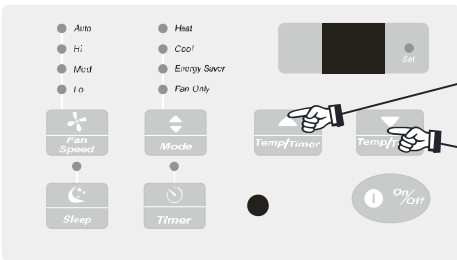


DO THIS:
PRESS ON/OFF
BUTTON

YOU WILL SEE:

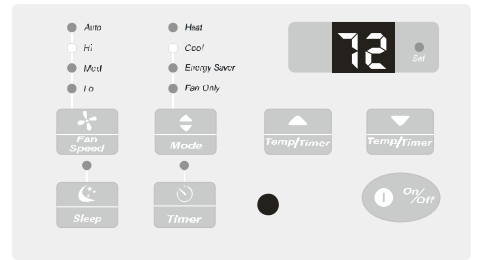


TO CHANGE TEMPERATURE SETTING:



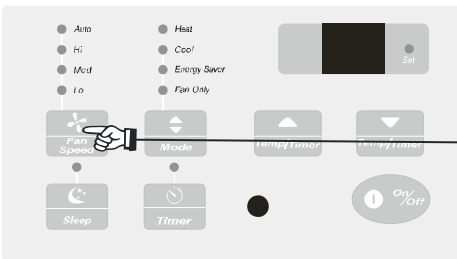
DO THIS:
PRESS TO RAISE
PRESS TO LOWER

YOU WILL SEE:



Note: Tap or hold either up(^) or down(v) button until the desired temperature is seen on display. This temperature will be automatically maintained anywhere between 61F (16°C) and 86F (30°C) for both cooling and heating modes. If you want the display to read the actual room temperature, "Select the fan only mode" .

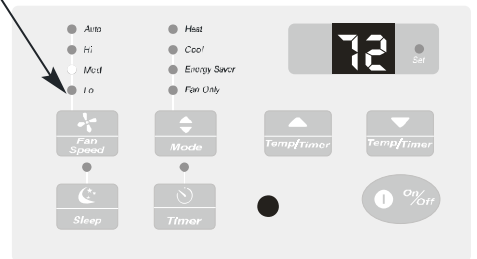
TO CHANGE FAN SPEEDS:



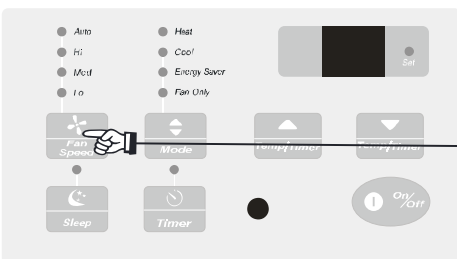
DO THIS:
PRESS FAN SPEED
BUTTON
SELECT SPEED

LIGHT ON

YOU WILL SEE THE SPEED CHOSEN:



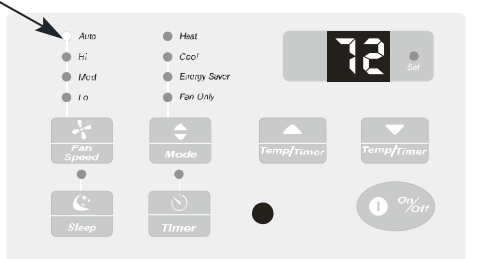
TO USE AUTO FAN FEATURE:



DO THIS:
PRESS FAN
SPEED BUTTON
SELECT
AUTO FAN

LIGHT ON

YOU WILL SEE:

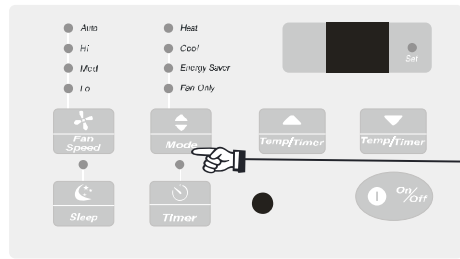


Note: The fan speed to automatically set to the speed needed to provide optimum comfort settings with the set temperature. If the room needs more cooling, the fan speed will automatically increase. If the room needs less cooling, the fan speed will automatically decrease. Auto fan speed cannot be used when in the Fan Only mode.

Air Conditioner Features

(continued)

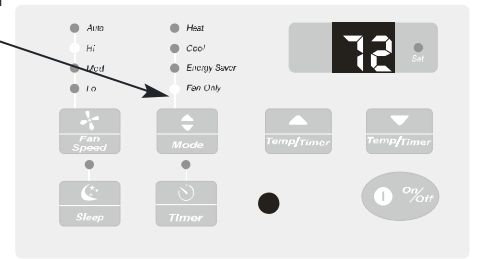
TO OPERATE ON FAN ONLY:



DO THIS:
PRESS
MODE BUTTON

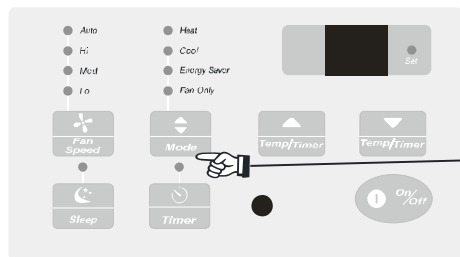
CHOOSE
FAN ONLY

LIGHT ON YOU WILL SEE:



Note: Use this function only when cooling is not desired, such as for room air circulation. You can choose any fan speed you prefer, EXCEPT AUTO FAN. During this function, the display will show the actual current temperature, not the set temperature as in the cooling mode.

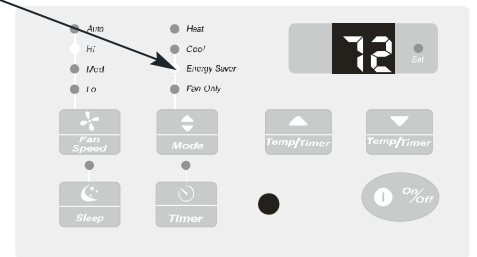
TO USE THE ENERGY SAVER FEATURE:



DO THIS:
PRESS
MODE BUTTON

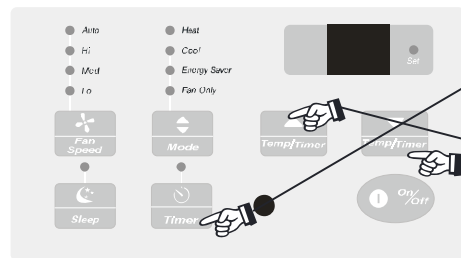
CHOOSE
ENERGY SAVER

LIGHT ON YOU WILL SEE:



Note: In this mode, the fan will continue to run for a short time after the compressor cycles off.

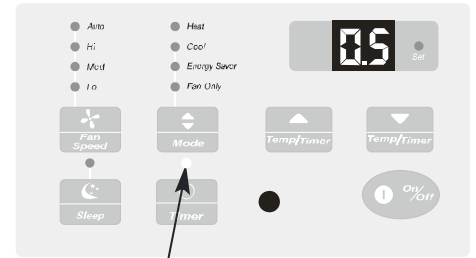
TIMER-DELAY START/STOP FEATURE:



FIRST DO THIS:
PRESS TIMER BUTTON

THEN DO THIS:
PRESS TEMP/TIMER BUTTON

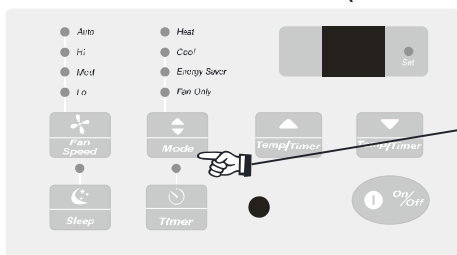
YOU WILL SEE THE TIME CHOSEN:



Note 1: For Delay Stop, the unit must be in the ON position.
Note 2: For Delay Start, the unit must be in the OFF position.

To adjust timer setting, tap or hold the UP arrow (^) or DOWN arrow (v) to change the delay time by 0.5 hour increments up to 10 hours, then by 1 hour increments up to 24 hours. The control will count down the timer remaining until start (8, 7.5, 7, etc.). After set Timer, the unit will enter into Timer mode by 5 seconds, then Timer light on, Set light off. In Timer mode: Set temperature and fan speed keeps previously set temperature and fan speed; Temperature display set temperature, no display if power turn off; Press Timer once, LED display remaining time of set time, LED return to set temperature by 5 seconds; When in Fan Only mode, LED only display room temperature, do not display set temperature. Turning the unit "ON" or "OFF" at any timer will cancel the Delay Start/Stop function. The delay Start/Stop feature will work until the unit either starts or stops. Once this has happened then the above steps have to be repeated again.

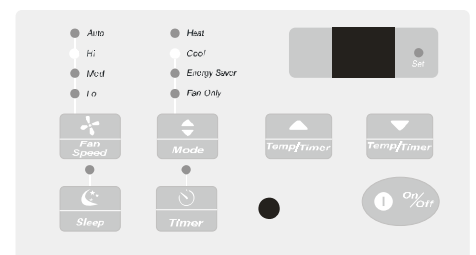
COOLING FEATURE (on some models):



DO THIS:
PRESS
MODE BUTTON

SELECT COOL

YOU WILL SEE:

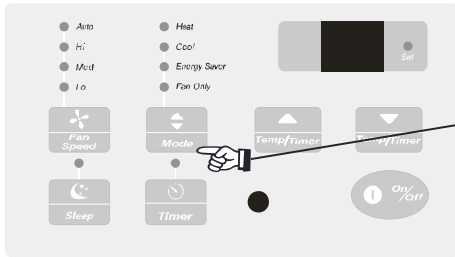


Note: This feature can be used with any combination of FAN Speeds, Timer, or Sleep Modes. When in the "Cool" Mode, the fan will run continuously while cool is needed. The temperature will automatically be maintained anywhere between 61°F (16°C) and 86°F (30°C). When the room set temperature is satisfied, the fan will cycle off and on to circulate and sample the room air. If the air conditioner is off and is then turned on while set to a Cool setting or if turned from a fan setting to a Cool setting, it may take approximately 3 minutes for the compressor to start and cooling to begin.

Air Conditioner Features

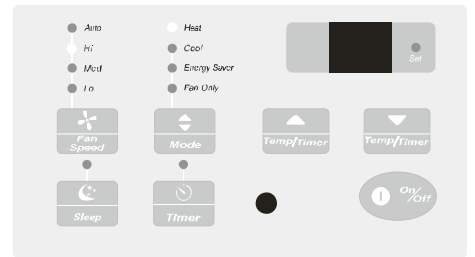
(continued)

HEATING FEATURE (on some models):



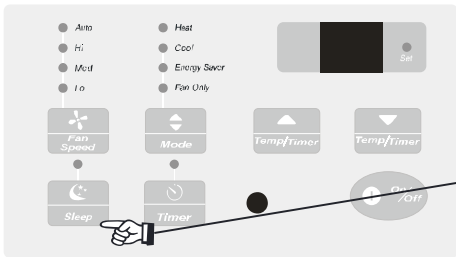
DO THIS:
PRESS
MODE BUTTON
SELECT HEAT

YOU WILL SEE:



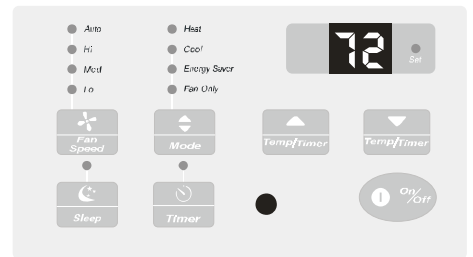
Note: This feature can be used with any combination of FAN Speeds, Timer, or Sleep Modes. When in the "Heat" Mode, the fan will run continuously while heat is needed. The temperature will automatically be maintained anywhere between 61°F (16°C) and 86°F (30°C). When the room set temperature is satisfied, the fan will cycle off and on to circulate and sample the room air.

SLEEP FEATURE :



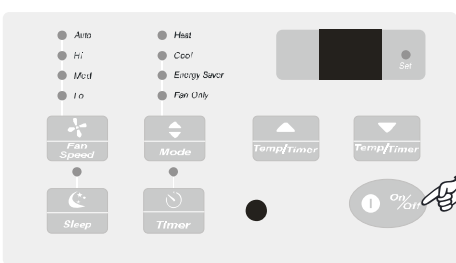
DO THIS:
PRESS
MODE BUTTON
SELECT SLEEP

YOU WILL SEE:



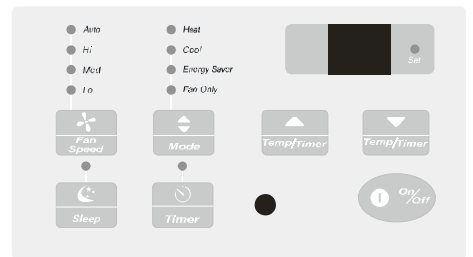
Note: Press this button, Sleep On and Sleep Off can be selected. After powered on, Sleep Off is defaulted. After the unit is turned off, the Sleep function is canceled. As the unit is in Cool or Energy Saver Modes, if Sleep Mode is set, SET TEMP. would increase 1°C in 1 hour and 2°C in 2 hours. As the unit is in Heat Mode, if Sleep Mode is set, SET TEMP. would decrease 1°C in hour and 2°C in 2 hours.

TO TURN UNIT OFF:

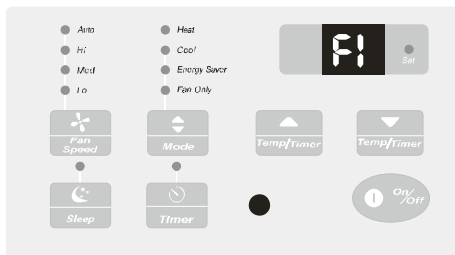


DO THIS:
PRESS
ON/OFF BUTTOT

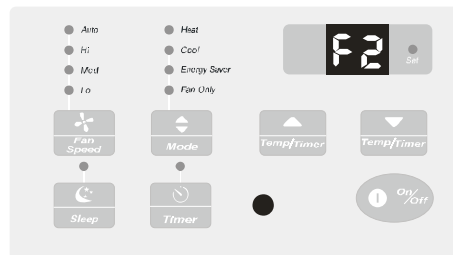
YOU WILL SEE:



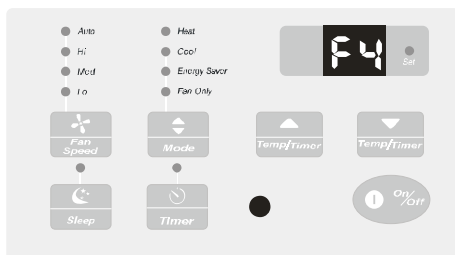
FAULT CODES



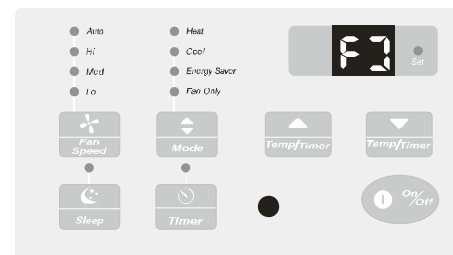
If the display reads "F1"
a sensor has failed.



If the display reads "F2"
a sensor has failed.





If the display reads "F4"
a sensor has failed.



If the display reads "FJ"
a sensor has failed.

ADDITIONAL THINGS YOU SHOULD KNOW

Now that you have mastered the operating procedure, here are more features in your control that you should know.

- The Remote Control will operate all the control panel features, follow the same instructions.
-  **The "Cool "circuit has an automatic 3 minute time delayed start if the unit is turned off and on quickly. This prevents overheating of the compressor and possible circuit breaker tripping. The fan will continue to run during this time.** 
- The control will maintain any set temperature between 60F and 90F degrees (cooling), 55F and 80F (heating).
- The control is capable of displaying temperature in degrees Fahrenheit or degrees Celsius. To convert from one to the other, press and hold the Up and Down Temperature Selection Pads at the same time for 3 seconds.

COMPRESSOR

The compressor is hermetically sealed, permanently lubricated and requires no additional oiling.

FRONT PANEL AND GRILLE

The front panel and grille can be cleaned with a mild soap or detergent. Do not use hydrocarbon-based cleaners (e.g. acetone, benzene, naphtha, gasoline, etc.) to clean the front panel or grille. Use care when cleaning the control area. Do not use an excessively wet cleaning cloth.

SCHEDULED MAINTENANCE

To achieve continuing top performance and high efficiency, a regular cleaning/inspection schedule must be established. Maintaining this schedule can be accomplished by either a local maintenance staff or an authorized servicer and must follow the instructions described in this manual.

- If the unit is operated in a dusty climate, dust may collect in the basepan and clog the condenser coil. It is advisable to remove the unit from the sleeve and thoroughly clean the basepan and condenser coil on a periodic basis.
- If the unit is installed ocean side or in a corrosive atmosphere, its life may be greatly reduced by the corrosive environment. Under these conditions, the unit should be removed from the sleeve and completely cleaned once a year. At that time any scratches or blisters on the painted surfaces should be sanded and repainted.

OUTDOOR COIL CLEANING

The coils on the outdoor side of the air conditioner should be checked regularly. For cleaning outside coil, remove the 6 screws that mount the condenser coil top cover to condenser shroud.



Normal Operating Sounds and Conditions

POPPING OR GURGLING SOUNDS

This sound is the refrigerant traveling through the lines. This is a normal sound which may be heard for a few seconds after the unit shuts off.

WATER TRICKLING SOUNDS

This sound is produced by the water as it is picked up and run over the coils. This procedure improves the efficiency of the unit and helps with water removal.

WATER DRIPPING

Water will collect in the basepan during high humidity days.

STARTING DELAY

You may notice a short delay in the startup if you try to restart the unit too soon after turning it off or if you adjust the thermostat right after the compressor has shut off. This delay protects the compressor.

Obtaining Service

In the unlikely event this unit requires repair or servicing beyond what is covered in this manual, contact an authorized service organization.

To obtain an authorized servicer, contact your sales representative or agency.

PERFECT COMFORT

Toll Free - 1-866-233-4022

www.perfectcomfort.ca



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