BONAIRE®

The leaders in heating and cooling

BONAIRE QUICK START GUIDE

Navigator Thermostat

This is a quick start guide for the use of Bonaire Gas Ducted heaters and Bonaire Evaporative Coolers. For all operations of this thermostat please refer to your owner's manual.

Introduction

Your Navigator Controller is available in two versions -

1. Wall Mounted Control (Wired)

2. Remote Control (Wireless)

These operating notes cover both versions. Whether hand held or wall mounted, take advantage of the versatility your Navigator Controller offers.

Use your Navigator Controller to reduce your energy bills by selectively conditioning part of or your entire home at an economical reduced rate or by setting programs to suit your needs (Not available on Evaporative Air Conditioning).

Your Navigator Controller is designed in Australia to suit Australian conditions and will ensure that your home is comfortable all year round.

2. GENERAL INFORMATION

⚠ IMPORTANT INSTALLATION NOTICE

A licensed person is required to install BONAIRE equipment. If the equipment is not installed in accordance with the installation instructions and the governing body regulations, Climate Technologies reserves the right to refuse service on non-compliant installations.

Subject to state regulations and by law, a certificate of compliance must be issued for the electrical and plumbing works certifying that the work complies with all the relevant standards.

NOTE: Only a registered person will have insurance protecting their workmanship.

MODEL & SERIAL NUMBER

Your appliance model number, serial number and model description are located on the appliance data plate on the end of the heater, inside the Evaporative Cooler in the vicinity of the electronic controls, or on the Dual Cycle Outdoor Unit end panel and the Indoor Unit end panel. These details should also be in the warranty section of this booklet.

You will need this information, should your appliance require servicing, spare parts or if you require additional information about this product.

LIMITATIONS

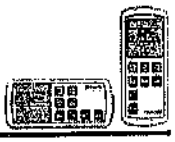
The Navigator Controller does not support systems that have both Evaporative Cooler and Dual Cycle Refrigerated Cooler units together.

WARRANTY

Warranty service work must only be carried out by Climate Technologies service division or its authorised service providers. Please refer to the warranty section.

SAFETY

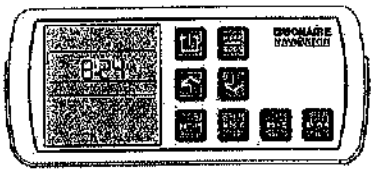
These appliances are not intended for use by persons (including children) with reduced physical, sensory or mental capacities, lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with these appliances.



Navigating the Controls

3. TYPES OF NAVIGATOR CONTROLLER

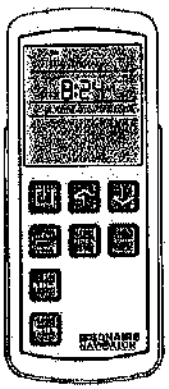
Use these pictures to Identify which model you have.



WALL MOUNTED CONTROL

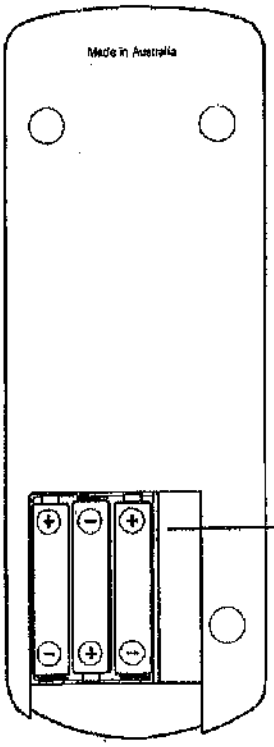
This model is mounted permanently in the cradle on your wall. No batteries are required. Power is supplied via the same cable that takes the controller's signals to your heating and/ or cooling appliances.

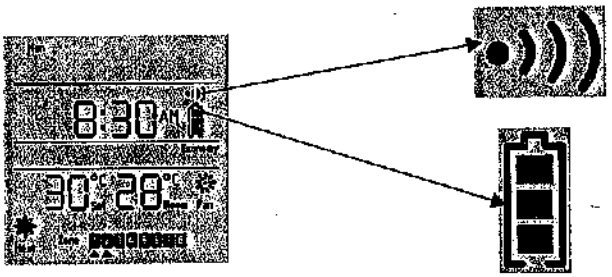
REMOTE CONTROL



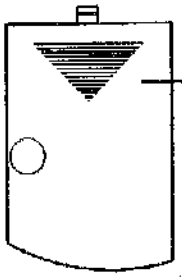
This model is hand held and will operate your appliances from most areas of your home – See ***IMPORTANT NOTE*** for exceptions.

The remote Navigator Controller (wireless) is powered by 3 AAA batteries. The battery icon indicates the battery strength. The wave icon indicates transmission of a communication to your appliance.





Batteries (Hand Held RF only)
Three alkaline AAA size 1.5V batteries are required. Do not mix old and new batteries.



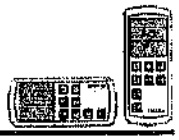
Battery Door
Slide open door allow batteries To be easily installed without the Need for a tool

IMPORTANT NOTE

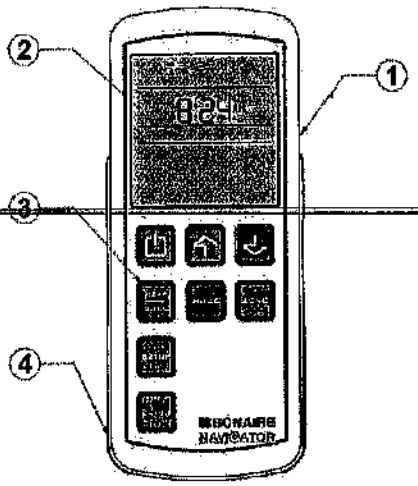
To reduce the risk of possible RF interference, do not locate your remote control near any electrical equipment e.g. TVs, computers, fridges, telecommunications and HI FI equipment or close to metal objects or window frames.

Some other wireless devices around your home may occasionally cause interference (such as wireless door bells, gates & door openers, or baby monitors & intercoms). Such interference can impede the operation of your appliance.

Ensure the remote control unit is not exposed to excessive heat, humidity, moisture or dampness.



4. FEATURES OF THE NAVIGATOR CONTROLLER



1. TEMPERATURE SENSOR

The temperature sensor measures the room temperature for thermostatic operation (REMOTE SHOWN).

2. LCD DISPLAY

This displays the operational status of the control - appliance mode, time, day, room temperature, set temperature, comfort level, fan speed, batteries and programming.

3. SOFT TOUCH BUTTONS

8 button layout

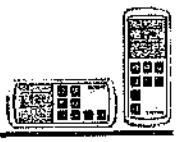
4. NAVIGATOR CONTROL CRADLE

- Fixed to the wall, this permanently mounts the wired Navigator wall control.
- Fixed to the wall for easy access to the wireless remote control.

OTHER FEATURES

- Time and day: The user can set the Time Format, Hours, Minutes and Day.
- Zone control: The Navigator Controller allows you to control zone dampers if installed. Zone motors are not supplied by Climate Technologies P/L.
- Child Lock: The user can protect the Navigator Control program settings.
- Programmed operation: The Navigator Controller can program the appliances by day or week (heating and dual cycle).
- Home automation compatibility
- Control of multiple appliances: Your Navigator Controller is designed to operate multiple appliances.
- Error reporting: Your Navigator Controller will report any errors or faults.
- Installer system setup procedure
- Service, diagnostic and error log modes
- Multiple control options
- Additional features for Pinnacle evaporative cooler units

Navigating the Controls



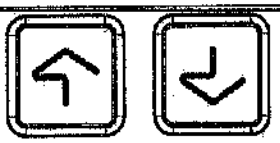
5. USING THE 8 BUTTONS

The following explains the function of each of the buttons:-

ON/OFF BUTTON

- Turns your heating and / or cooling appliances ON and OFF.

↑ ↓ BUTTONS



- Press & hold the **UP/DOWN** button to increase or decrease settings
- Or press & release the **UP/DOWN** button to increase or decrease one point at a time. Settings include day, time, temperature, fan speed.
- The **UP/DOWN** buttons are also used to select the different zones or programs available.

HEAT/COOL BUTTON

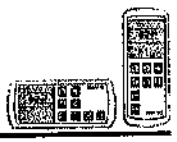
- Press to select from the heating and or cooling choices available. (In most cases you will only be able to see the names of the appliances that you have installed. If there is only one appliance installed, pressing the heat/cool button will result in "Error" being displayed).
- **Heat:** Ducted Gas Central Heaters
- **Cool:** Evaporative or Dual Cycle Refrigerative Air Conditioning
- **Heal/Cool:** Ducted Gas Central Heater and Dual cycle Refrigerated Air Conditioning

MODE BUTTON

- The MODE button allows the user to select the operating mode for the currently selected appliance type.
- There are six modes of operation defined. Thermo and Fan are common to all appliances. Program, Manual, Boost and Economy are only available on certain appliance types.

- Also for **Pinnacle evaporative cooler** units (only) press & hold Mode button functions – humidity control (if handset is in the ON state) & exhaust function (if handset is in off state)

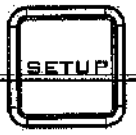
Navigating the Controls



ZONE BUTTON

- The ZONE button allows the user to select the area or section of your house for heating and cooling control (if zones are available).

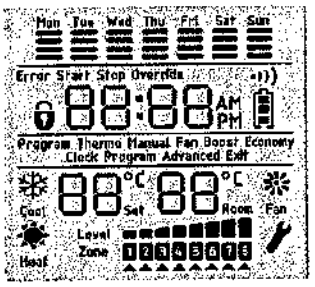
SETUP BUTTON



- The SETUP button is used to configure the Navigator Controller in either the ON or OFF condition. It allows time setting, programming and advanced setup. The advanced setup will only be enabled if the Navigator Controller is in the OFF condition.

ENTER BUTTON

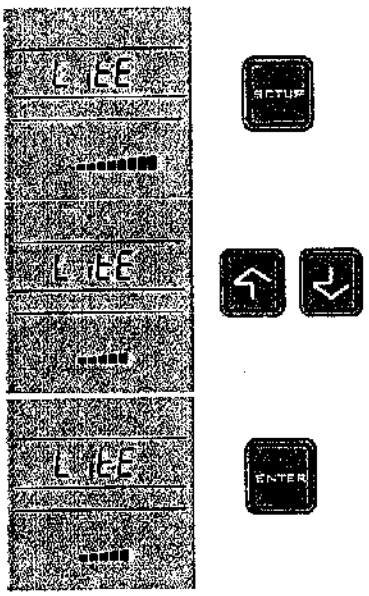
- Press and release the ENTER button to save settings when in SET TIME, PROGRAM mode and ZONE setting.
- Press and release the ENTER button to immediately send instructions.



6. THE LCD DISPLAY

The Navigator Controller LCD display shows different information depending on the functions in use. The Navigator Controller usually shows only those items relevant to the appliances you have installed.

7. BACKLIGHT

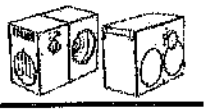


The Navigator Controller provides a **BLUE** and **ORANGE** backlight. The blue backlight is illuminated for cooling appliances and the orange backlight is illuminated for heating appliances. To adjust the backlight brightness level,

1. Press and hold the **SETUP** button until **"LitE"** appears on the display.
2. Press the ↓ or ↑ button to decrease or increase the backlight level.
3. Press the **ENTER** button to save the new backlight level selection.

8. REMOTE TRANSMISSION

To give you time to choose your settings, the remote Navigator Controller pauses 15 seconds and then sends its signal to your Heater/Cooler. Watch for the transmit symbol •))) on the screen. This means that the signal has been sent. (Wireless remote only).



18. PROBLEM SOLVING

WHAT IF THE CENTRAL HEATER WILL NOT OPERATE?

	Question	Y/N	Solution
1.	Has the unit been run since installation?	Yes	Refer to question 4
		No	Check the unit is turned on at the power point and the gas shut off valve is turned on. If not, call the installer to commission the unit.
2.	Is the unit installed in a new home?	Yes	Refer to question 3
		No	Refer to question 4
3.	Has the installer run the unit?	Yes	Refer to question 4
		No	Check the unit is turned on at the power point and the gas shut off valve is turned on. If not, call the installer to commission the unit.
4.	Is the set temperature greater that the room temperature?	Yes	Turn the unit off (for more than 2 seconds) and then on to reset the unit. If the unit still does not start, call for service. (refer to solution 6 for reset instructions)
		No	Increase the set temperature so the thermostat calls for heat.
5.	Is the thermostat in program mode?	Yes	The heater may be programmed to be OFF. To operate the heater manually, press the MODE button until Thermo is displayed. Adjust the room temperature to be greater than the set temperature.
		No	Adjust the room temperature to be greater than the set temperature.
6.	Has there been a known power surge?	Yes	Reset the unit - 1. Turn the power OFF then ON at the power point 2. Turn the control to OFF 3. Pressing the reset button on the circuit control board
		No	Unit should operate normally. If not, a service call will be required.

THIS TROUBLE SHOOTING GUIDE IS A REFERENCE ONLY.
FOR SERVICE OR WARRANTY REQUIREMENTS PLEASE REFER TO
THE WARRANTY SECTION OF THIS BOOK

Understanding the operation of a heating system

An effective and economical heating system is more than just the appliance. There are a number key factors to be considered that will effect the operation, performance and running of the heating system, these would include.

- The capacity of the appliance and its heat output.
- The heat loss of the room or your home.
- Zoning areas.
- The duct system.
- Using wisely.

The capacity & heat output of the appliance.
A heating appliance, whether it is a refrigerated air conditioner, a gas central heater or a space heater of some kind, all have capabilities and limits. A correctly sized heater is essential for comfort and economy. A heating unit will deliver a certain amount of kilowatts (kW) of energy, for example a Bonaire MB3 20I will deliver 20kW of energy.
As such an appliance must be sized to a room, an area or your home. Or the whole home An undersized heater will not heat an area adequately and will increase running costs.

The heat loss.
One of the first considerations when sizing the right appliance is to look at the heat loss of an area. Heat loss means how much heat is being lost from the area. The heating appliance will need to have a capacity greater than this amount.
Heat loss is determined from a number of factors.

- ✓ Ceiling insulation – if you have good efficient insulation you will have reduced heat loss.
- ✓ Well covered windows – Windows are the greatest cause of loss of heat, if you have many large windows with only light covering, the room will loose a significant amount of heat.
- ✓ Draft Sealing – The more draft that can enter a room the more heat loss.
- ✓ Floor coverings- can reduce heat loss, for example a tiled floor verses a carpeted floor, the carpeted floor will retain heat more.

All of these factors can reduce effectiveness and increase running costs of an appliance.
A qualified person will assess the heat loss of a home and correctly size an appliance and system to suit the area to be heated.
Sometimes builders may include in a new home package a heating system with a certain number of outlets as part of the package, this may or may not be sufficient to adequately heat the home and this should be discussed with your builder and their contract installers.

Zoning Areas – For ducted appliances.
Many ducted systems will allow zoning, which allow certain rooms or areas to be switched off. If the appliance is designed for zoning, it will turn down the energy consumption, giving a reduced heat output. As not all appliances can be zoned, you should consult the dealer or retailer to see if your appliance can be zoned.

The duct system - For ducted appliances
The duct system – If you have a ducted heating system of some kind, this means that the warm air generated by the appliance travels through ducting to registers or outlets. If the ducting has poor insulation thermal resistance, the more heat will be lost in the duct system, a minimum of R1.0 - R1.5 Insulation resistance should be used (depending on the appliance type) and you should discuss this with the installer of your system.

The duct system must also have good joints and connections, if air can escape or cool air can be sucked into a duct system, the system and unit performance can be dramatically effected.

Bonaire Frequently Asked Question

Using your heating system wisely

A heating system is typically designed to heat a room or an area to approximately 20-21 degrees, every degree you set above this will increase your running costs by up to 15%
Lower the thermostat temperature by a degree.
Ensuring the insulation properties of the home are as such that the heat loss is minimised will add to the effectiveness of the appliance and reduce running costs.
Keep all doors to unheated areas closed.
Zone a system down only if the appliance can be zoned (and close doors to unopened zoned areas closed) will reduce running costs
If you have a ducted system, ensure the ductwork is in good condition to reduce heat loss and increase appliance effectiveness.

Running Cost of your heater

4 & 5 Star gas central heaters will consume less energy over a period than a 3 star as well as they can be zoned

Refrigerated air conditioning is efficient as typically you are getting up to 3kW of energy out for each kW of energy consumed.

Space heaters are designed to heat only a space relative to their capacity, opening up other areas will cause the appliance to run on high for longer periods and cause increased running costs.

Appliances, in accordance with the Australian Government, department of climate change and energy efficiency, have energy rating labels, these labels indicate the energy efficiency of the appliance as well as provide a guide of running costs for comparative purposes. A retailer should be able to show you the energy label of an appliance.
More information on energy labels can be found at www.energyrating.gov.au

If the home cannot reach the thermostat set temp refer to the facts above as running costs will be high.

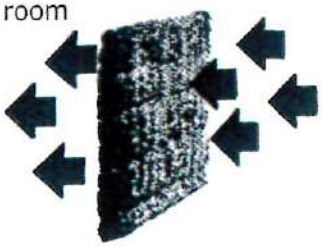
Bonaire Frequently Asked Question

How does evaporative air conditioning work?

Evaporative air conditioning is very suited to the dry climate of the southern states of Australia and will provide relief cooling in humid regions. These units are very suited to the Australian lifestyle.

Evaporative air conditioners cool by natures very own method of evaporation and can be likened to a sea breeze.

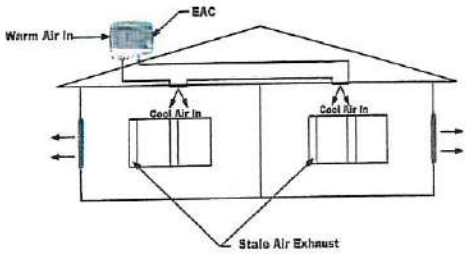
Hot outside air. is drawn through water moistened filters, this air absorbs moisture through evaporation, on a ducted system, this air is blown through ducts and outlets to most rooms of a home. This moist cool air absorbs heat from the rooms and the air must be expelled through an open door or window in each room there is an air outlet or vent.



How much cooling is possible?

A precise answer to this question is not always possible as there are many conditions that effect the operation and performance of the evaporative air conditioner.

As the process of cooling is a natural method reliant on temperatures and humidity the amount of cooling an evaporative air conditioner will produce will be a variable. Simply put the hotter and dryer the climate, the more cooling can be achieved. There will be some days when you will notice a large temperature difference between inside and out and some days when you will notice very little difference, this does not mean your evaporative air conditioner has a fault or problem; it is simply the conditions of the day and the operational limitations of evaporative air conditioning.



What sort of comfort conditions can be expected?

Evaporative air conditioning provides comfort conditions. Comfort is defined in a number of forms, temperature and air movement, both of which are important for evaporative air conditioning. Evaporative air conditioning will provide a temperature drop, sometimes large and sometimes small as well as providing air movement.
Air movement to expel the heat from a room and air movement across your skin are very important factors of comfort conditions.
Remember, evaporative air conditioning will raise the humidity level in a home, but with cool air, high humidity is not uncomfortable and personal comfort will still be experienced.
Everything living, plants, animals humans all need moisture in the air and evaporative air conditioning provides this.

Benefits of evaporative air conditioning

- ✓ Low energy use.
- ✓ Low greenhouse gas emissions.
- ✓ Low running costs.
- ✓ Moderate purchase cost.
- ✓ Cool air with increased humidity.
- ✓ Doors and windows are open.

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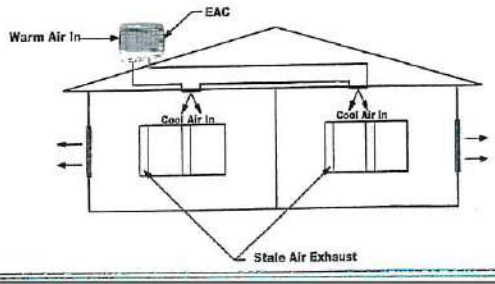
FREQUENTLY ASKED QUESTIONS

Why windows and doors need to be open for evaporative air conditioning to work.



Evaporative air conditioning being a natural method of cooling relies on changing the air in the home to provide cooling.

This change of air method simply means that the cool air coming into the home from the evaporative air conditioner, picks up heat from inside the home and the air is then expelled or relieved out of an open door or window, hence changing of the air.

How much relief area is needed?

The minimum relief or exhaust opening should be as per the table guide set out below. If windows or doors cannot be left open, it is recommended that ceiling vents or exhaust fans be used to expel the warm air and give an air change. The exhaust fans or ceiling vents should have a capacity equivalent to that of the air conditioner. In basic terms, each room with a outlet or vent should have a window open approximately 100mm, but this will vary on the room size and the amount of air being delivered into this room.

Vent Area for Doors and Windows

0.5m² 1.5m² 0.75m² 0.5m²

Troubleshooting with relief air.

On occasions you may find the prevailing winds would suggest that a certain window or door not be opened as this may let in more hot air than the cool air coming from the outlet. Close this window or door but ensure an opposing window or door is open.

If you find that there is a moisture or condensation build up in the room or the home, this would suggest that the relief openings may not be sufficient and you should open the relief area more.

Domestic EAC Units

MODEL	MINIMUM EXHAUST AREA
Small	0.85 m²
Medium	1.19 m² to 1.48 m²
Large	2.02 m²