COOL BREEZE

AIRCONDITIONING

OWNER'S GUIDE

Model MX Series
and Plus Upgrade

Designed and manufactured by

AIR GROUP AUSTRALIA
28 Division Street
Welshpool WA 6106

CONTENTS

SYSTEM OVERVIEW

The Cool Breeze MX System is a fully automatic Evaporative Air Conditioning System with household backup lighting and smoke detection facilities as standard.

Additional to the MX Series is the Plus Upgrade which provides Security and Sentry features. The Plus upgrade functions may be added at a later date if they were not installed at the same time as the Air Conditioning System.

MX SERIES

Air Conditioning

The system operates in either COOL, FAN or EXHAUST modes, and has automatic temperature control, which adjusts the system automatically to maintain the desired temperature setting. Full timer facilities, result in complete flexibility and control. The system supports multiple keypads.

Smoke Detection

When smoke is detected the local smoke detector will sound the alarm and the Air Conditioner will automatically shut down.

Backup Lighting

The system provides battery backup lighting for convenience and safety during a power failure.

PLUS UPGRADE

Security

The Security system is a local alarm type, and uses Passive Infra-Red detectors as its main detection device. The system is PIN operated, and incorporates both internal and external sirens, and a Panic button.

Sentry

This system may be used to protect the occupants of the home from external break-in, or may be used as an aid to the home occupants to switch on the backup lighting or sound a warning at night when movement is detected.

PRINCIPLES OF EVAPORATIVE AIR CONDITIONING

On days when the heat or humidity, or both, have become uncomfortable, people in all climates go to the lakes or beaches to be cool. The five reasons why they are cool and comfortable are the same five reasons why an Evaporative Air Conditioner creates comfort. The fan of an Evaporative Air Conditioner continuously circulates outside air through wet filters. This process lowers the temperature of the air through evaporation of water in the wet filters. This cool, fresh, filtered air is then directed into the area to be cooled. The cool breeze at the seashore is air in motion that has been cooled by the same process of water evaporation. The fresh air from an Evaporative Air Conditioner and the fresh, cool air at the seaside are identical.

Lowers Actual Temperature

Hot outside air is drawn through wetted filter pads. The actual temperature is lowered and cool air enters the room to be cooled.

Lowers Effective Temperature

This is the temperature that people 'feel', as a result of air movements over the body, and should not be confused with the actual temperature as read from an ordinary thermometer on a hot day. When sitting in a breeze, we feel cooler, even though the air stream is the same temperature as in the still air. This cooling effect of air in motion is due to increased skin surface evaporation, and an increased body air conduction rate. These two effects cause heat loss from the body and so a person feels cooler. This effective temperature can be from two to four degrees below the actual room temperature. In Evaporative Air Conditioning the higher the velocity of the circulating air, the greater the effective temperature drop.

Reduces Radiated Heat To Occupants

Under normal temperature conditions heat is radiated from the human body to surrounding walls etc. However, as the wall temperature approaches 34-35^{o}C, the heat is radiated from the walls to the human body. In evaporative air conditioning, the cool air absorbs heat from the walls and ceiling, thus allowing people occupying the room to radiate heat at a faster rate, and so to keep cooler.

100% Fresh Air

With evaporative air conditioning there is a constant change of air in the room. 100% fresh air is constantly entering the room forcing out the spent air. The air in the room is never re-circulated.

Filtered Air

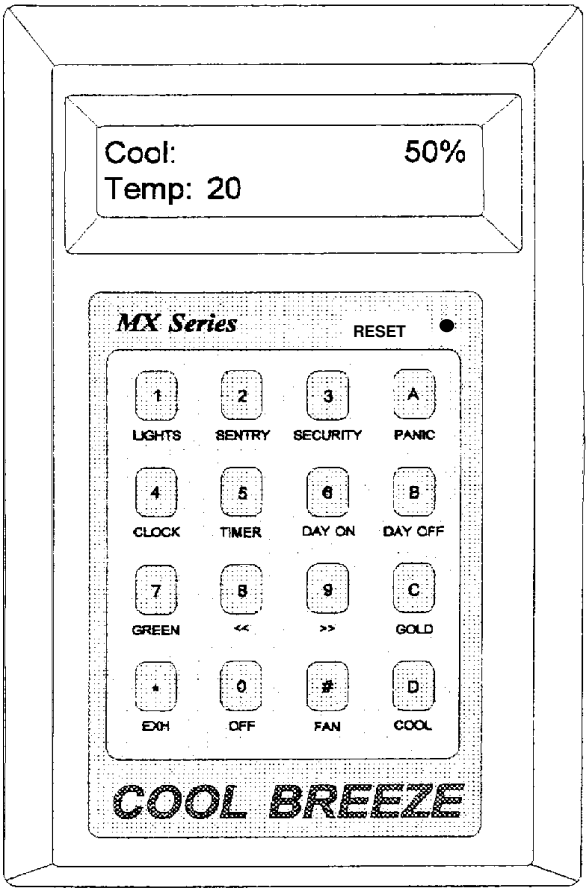
Outside air often contains dust, pollen and foreign matter. In evaporative air conditioning this outside air passes through wet filters which washes the pollen and dirt from the air. The air blowing into the room also causes a slight pressurisation of the room through doors and windows.

THE KEYPAD AND DISPLAY

Each key's function has been printed below the key. To operate any of the functions, press the respective key.

The GREEN and GOLD keys are used to alter the program settings, or to adjust any of the times. See the section of GREEN and GOLD for more details on this mode.

When multiple keypads are fitted to a system, they will all display the same text but only the keypad in use, will 'beep' and illuminate the screen.



KEYPAD LAYOUT

COOL	Switches on the Air Conditioning system to achieve maximum cooling.
FAN	Switches the system on in Fan only mode. Outside air will be drawn in without being cooled.
EXHAUST	Switches on the fan in extraction mode.
OFF	Turns the system Off, and cancels any unelapsed time in the Timer mode.
<< & >>	Adusts up and down the fan speed. Adjusts up and down the temperature in Auto mode. (See section on operation of the system in Auto mode.)
CLOCK	Displays the current time.
TIMER	Countdown timer to switch the system On or Off.
DAY ON	Switches on a daily timer, which will start and stop the system at pre-set times each day.
DAY OFF	Cancels the daily timer facility. (Opposite of DAY ON)
LIGHTS	Switches the Backup lights On and Off.
SENTRY	Arms and disarms the Sentry System.
SECURITY	Arms and disarms the Security System.
PANIC	Switches on the Panic Alarm.
RESET	If lock up occurs refer to page 22 & 40.

The system has an interactive LCD display, which will keep you fully informed at all stages of operation.

SYSTEM OPERATION

COOL MODE

Press COOL and adjust fan speed with the << and >> keys.

The system will always start on the last used fan setting.

FAN MODE

Press FAN and adjust fan speed with the << and >> keys.

The system will always start on the last used fan speed.

The FAN mode is useful when the outside ambient temperature has dropped, and no direct cooling is required. This mode is particularly useful at night, when direct cooling is normally not necessary.

EXHAUST MODE

Press EXHAUST and adjust fan speed with << and >> keys.

The system will always start on the last used Exhaust fan speed.

A delay will occur on switching between forward and reverse fan rotation. This is to protect the motor, and allow it time to stop, before rotation is reversed.

A useful mode for eliminating odours from the home without the in-rush of air associated with the Cool and Fan modes.

OFF MODE

Press OFF. The system is switched Off, and any unelapsed time in the timer is cancelled.

WASH CYCLE

The pre-start WASH cycle washes any accumulated dust or pollen off the pads prior to the fan starting. The Wash cycle starts automatically when COOL is pressed and takes a total of 3 minutes to complete. It may also be cancelled, or the duration varied, by the use of the GREEN and GOLD programming feature.

The WASH water may also be drained after a WASH cycle. This is particularly useful in dusty areas, as it will help keep the pads cleaner, and thereby prolong their life.

The WASH cycle may be by-passed permanently, by setting GREEN and GOLD, or temporarily by pressing the FAN key prior to the COOL key, of instant cooling is required without a WASH cycle.

PRE-COOL EXHAUST

Your system may be programmed with GREEN and GOLD, to start, each time COOL is pressed, in Exhaust mode prior to cooling. For areas being cooled with high ceilings this feature is useful to clear warm and stale air that has accumulated near the ceiling. If set, your system will switch on in Exhaust mode for the set period, and then automatically switch over to Cool mode.

FLUSH MODE

At the end of a cooling cycle, your system will drain the base of water, take in a fresh tank of water, and then rinse off the pads with this fresh water. This flushing process has bee set for 8 minutes, but may be varied, or permanently cancelled using GREEN and GOLD.

To by-pass the FLUSH routine for one cycle, press FAN prior to OFF.

DRAIN MODE

The system will automatically drain its water, after the END OF DAY FLUSH cycle, and the tank will remain dry when not in use.

The in-built water management system allows for cyclical draining of water during normal operation, in order to maintain water purity. The factory setting is for a DRAIN cycle to occur each 5 hours.

The DRAIN cycle will assist with the maintaining of water purity and system cleanliness. This DRAIN cycle may be cancelled, or the cycle time amended using GREEN and GOLD. If water quality is particularly poor, a more frequent drain cycle is recommended. Consult your installer for advice.

AUTOMATIC TEMPERATURE CONTROL MODE

See GREEN and GOLD to switch on the AUTO mode.

Your system is fitted with a temperature sensor and controller which will automatically regulate the required cooling.

When the system is in AUTO mode, the SET temperature is displayed. See the following diagram and note the differences.

- In MANUAL mode the << and >> keys regulate the fan speed.
- In AUTO mode the << and >> keys regulate the SET temperature.

AUTO mode may be operated in two ways:-

- Auto Cool - Uses FAN and WATER for cooling. Maximum cooling possible in this mode.
- Auto Fan - Uses FAN only for cooling. Useful for evening use, when cool outside air is sufficient to maintain the required temperature.

We suggest that you try both of these modes, in order to obtain the best result to suit your particular requirement.

To set the system to AUTOMATIC TEMPERATURE CONTROL mode, press either COOL or FAN as required.

Press GREEN and D, and << or >> to switch Auto mode On. In Auto mode the ‘SET” temperature will be displayed.

Set the required temperature using the << and >> keys.

The system will commence operation when the ACTUAL temperature rises above the SET temperature. The greater the difference between the ACTUAL and SET temperatures, the faster the fan will rotate in order to achieve greater cooling.

When the ACTUAL temperature drops below the SET temperature, the system will switch off, but remain in readiness to automatically re-start when the ACTUAL temperature rises above the SET level. This may be termed STANDBY mode.

To cancel the STANDBY mode, and to switch the system Off, press the OFF key. The system will remain in Auto mode, but will not operate even when the ACTUAL temperature rises above the set level.

To re-instate the STANDBY mode, press either FAN or COOL.

The actual temperature is being recorded at the temperature sensor which should be installed in a part of the home to give a good 'average' temperature reading.

A temperature that is set at an unrealistically low level will never be achieved due to the limitations of evaporative air conditioning. A low temperature setting will cause the system to operate at maximum fan speed continuously. This causes no strain to the system, as the motor is designed to operate at maximum speed continuously.

Once the main fan switches off in Auto mode, the pump will continue to operate for 60 minutes. This is necessary to ensure that the pads do not dry out and leave a residue on them. If after the 60 minutes, no further cooling is called for, the system will carry out its normal end of day cycle of flushing and draining.

CLOCK
Press CLOCK.

If the system is operating, the current time will be displayed for a short time.

If the system is switched off, the current time will always be displayed.

To change the time see GREEN and GOLD.

TIMER
Press TIMER. Each press of the TIMER key increments the TIMER by 1 hour.

If the system is switched OFF, pressing the TIMER key will start the system in COOL mode in the set number of hours.

If the system is switched ON, pressing the TIMER key will stop the system in the set number of hours.

To cancel any unelapsed time press OFF.

DAY ON / DAY OFF
Press DAY ON. The system will now start and stop at the pre-determined times as set in GREEN and GOLD.

Press DAY OFF. This feature will be cancelled.

See GREEN and GOLD on how to program the daily START and STOP times.

Caution - The system gives no visible display that the DAY ON feature is active. Take care not to press this key inadvertently if START and STOP times have been entered. If this feature is not being used, leave the set START and STOP times at the factory setting of 24.00. In this case, pressing the DAY ON / DAY OFF keys will have no effect.

GREEN AND GOLD

Your system has been pre-programmed by COOL BREEZE and it contains all of the most commonly used settings. If you are satisfied with the operation of your system, leave these settings as standard.

A list of these standard settings is contained in Appendix 1.

If any setting is changed we recommend that you record your setting in the table in Appendix 1.

The built-in backup battery will retain all settings in the event of a power failure. If the main backup battery is disconnected, these altered settings will default back to the original settings.

The following principle applies to the GREEN and GOLD keys:-

- GOLD changes feature times and duration's. For example, to set the clock use the GOLD key.
- GREEN switches ON and OFF features. For example, to switch the system ON in AUTO temperature control mode, use the GREEN key.

GREEN AND GOLD MENU REVIEW MODE

The simplest way to get to know and use the GREEN and GOLD keys is to use them in MENU REVIEW MODE, to display the available features.

For example:-

Press GREEN and then any other key. If the key pressed contains a feature, this feature will be displayed. If no feature is attached to the key, the words "NOT AVAILABLE" will be displayed.

Repeat this process through any or all of the keys in order to review the full MENU.
Do the same with the GOLD key. You should now be conversant with the available features of your system.

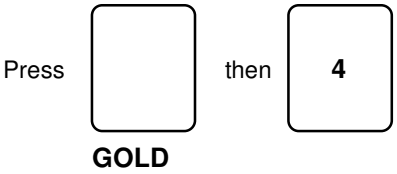
In this REVIEW MENU mode, no feature will be altered.

GREEN AND GOLD - TO AMEND A FEATURE OR TIME

To amend a feature or time, use the REVIEW MODE to display the feature or time that is to be amended, and whilst the feature is displayed on the screen, use the << or >> keys to change a time, or to switch a feature ON or OFF. You have approximately 5 seconds after a feature is displayed, in which to change it .

Follow the examples below:-

1. To set the correct time of day.



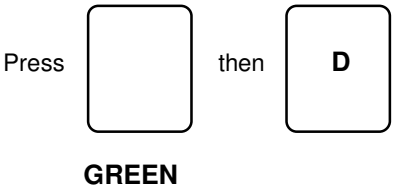
The current time of day will be displayed for a short duration.

Whilst this time is display, use either the << or the >> key to set the correct time.

Once the correct time has been set, don't press any key until the display reverts back to its original setting. Th time has been adjusted. It is as simple as that.

To turn a time feature off, set the time to 00.00.00. For example, the cyclical DRAIN interval is set at the factory at 5 hours. To cancel the cyclical DRAIN, set the time to 00.00.00.

2. To set the system to AUTOMATIC TEMPERATURE CONTROL MODE



The display will indicate FACILITY ON or OFF.

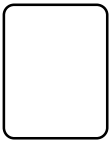
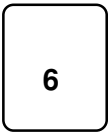
Use either << or >> to change this to the desired setting. The << and >> keys will toggle the system to ON or OFF.

Leave the keypad for a short while and the display will revert to its previous setting.

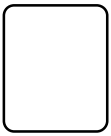
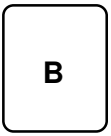
Refer to Appendix 1 or your keypad instruction card for a full description of the GREEN and GOLD air conditioning features.

MORE GREEN AND GOLD FEATURES

TO SET THE DAILY TIMER

Press  then  to set the Day On time.

GOLD **6**

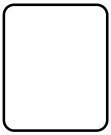
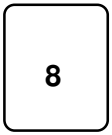
Press  then  to set the Day Off time.

GOLD **B**

This allows you to set your Air Conditioning system to start and stop at pre-determined times each day.

To switch the feature ON and OFF use the DAY ON and DAY OFF keys without the GOLD key.
This feature may be very useful if used in conjunction with the AUTOMATIC temperature control mode, to operate the system only between certain hours, and only if the temperature demands it. To operate in this mode, use the DAILY facility, and leave the keypad in AUTO mode.

TO ALTER THE WASH DURATION

Press  then 

GOLD **8**

Use this feature to amend the WASH time, or to cancel the WASH cycle if no WASH is required. In a dusty environment it is recommended that this WASH cycle be increased.

TO ALTER THE FLUSH DURATION

Press [ ] then [9]

GOLD

Use this feature to amend the FLUSH time, or cancel it if required. The 8 minute FLUSH cycle will be adequate for most applications, however if water quality is poor with a high incidence of minerals, extending this time will result in cleaner pads, thereby extending their life.

TO ALTER THE DRAIN INTERVAL

Press [ ] then [D]

GOLD

This feature amends the cyclical DRAIN duration. It may also be cancelled if required. This cycle has been set at 5 hours, but should be reduced in a poor water quality situation, and could also be increased if water quality is very good.

During the evaporation process a build-up of minerals occurs in the re-cycled water. A mineral build-up will reduce the unit's cooling efficiency. The overhead in water for a good periodic DRAIN cycle is very small compared to the benefits of clean water.

On average, 10 litres of water will be used during a DRAIN cycle, which is equivalent to a toilet cistern flush. This is a small overhead to ensure the efficient operation of your system. Your installer will be able to advise you on the best interval to use for your area.

TO SET THE PRE-COOL EXHAUST

Press [ ] then [*]

GOLD

Use this feature for homes with high ceilings, or if pockets of warm or stale air tend to become trapped close to the ceiling.

TO SET THE INACTIVITY DELAY TIME

Press [ ] then [**0**]

GOLD

This is a useful safety feature which, once set, will automatically switch you air conditioning system off, if no key press has been detected for the period set in the delay.

For example, if the INACTIVITY DELAY has been set at 12 hours, and the air conditioning system has been operating for 12 hours with no key pressed, the system will switch itself off automatically after 12 hours.

If the system is left in AUTOMATIC MODE for long periods, i.e. greater than 24 hours it will be necessary to switch this feature off.

TO SWITCH THE KEYPAD BEEPER OFF

Press [ ] then [**7**]

GREEN

If the acknowledging 'BEEP' is not required after a key press, it may be silenced in this way.

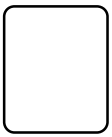
TO SET THE DRAIN AFTER WASH FUNCTION

Press [ ] then [**B**]

GREEN

In a particularly dusty environment, or if the unit is not used regularly allowing a build-up of dust and pollen on the pads, this feature is useful. It will ensure that all of the dust washed off the pads is drained from the tank after the wash, and not recirculated over the pads. This will result in a cleaner system and pads. Once again, the overhead in water consumption for this feature is approximately 10 Litres.

TO SWITCH THE AUTO TEMPERATURE MODE ON

Press  then **D**

GREEN

Switches the automatic temperature control ON and OFF.

See the section on AUTOMATIC TEMPERATURE CONTROL for full details.

BACK UP LIGHTING

The backup lighting will switch on automatically as follows:-

1. In the event of a mains power failure.

The lights will be illuminated for a period of 3 minutes and then switch off again. This allow the user time to press the LIGHTS key if the backup lighting is required. This confirmation ensures that the lights are not left on if they are not required.

2. In the event of a smoke alarm. Particularly useful at night.

3. During sentry mode, if set to turn on with GREEN and GOLD (if Plus Upgrade fitted.)

4. During a security alarm, if set to turn on with GREEN and GOLD (if Plus Upgrade fitted.)

Five lights will be illuminated from a fully charged battery for approximately 20 minutes. After this period of time the lights will switch off, and a “Low Battery” message will be displayed. Do not turn the lights on again after this message has been displayed, until the batter has once again been fully charged. This will take up to 24 hours.

Always fit a replacement globe of the same voltage and rating. See specifications at the rear. Failure to do so, may cause excessive power to be drawn from the system and could result in damage to the circuitry.

It is advisable not to install lights in the sleeping areas, particularly if the sentry mode is to be used to automatically switch on the lights at night. A person moving about the home would disrupt;t sleeping persons by the illumination of the lights.]

SMOKE ALARM SYSTEM

The smoke detectors supplied with the MX system are extremely sensitive, and a very small amount of smoke will alarm the system. Smoke detectors should not be placed in a kitchen are or near to a kitchen area as cooking odours and fumes will cause an alarm condition.

If a smoke alarm occurs, the following will happen:-

1. The individual detector will sound an alarm.
2. The backup lighting will switch on.
3. The air conditioning system will be stopped if it is operating.
4. The keypad will display a warning message.
5. The external siren and internal sounder and external strobe light may also be alarmed if they have been attached to the Smoke Alarm System with GREEN and GOLD (if Plus Upgrade fitted.)

To Cancel A Smoke Alarm Condition, press any key on the keypad. It is recommended that the OFF key be used.

Once cancelled, the Smoke Alarm System will remain inactive for 10 minutes. It will automatically re-arm itself once again after 10 minutes. If the smoke condition is still present, the system will once again alarm and will again require cancelling.

This 10 minute period allows the home owner time to clear the alarm condition, if it is appropriate to do so. If an EMERGENCY situation is present take the necessary action.

NOTE:

Even thought the main system is re-set, the individual detector will continue to sound its internal alarm until the smoke condition has been cleared.

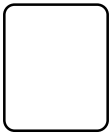
To stop an individual detector from alarming, its power source will need to be disconnected. To do this, open the cover by pulling down on the tab where indicated. Prise off the power snap connector and cable from the detector.

A build up of dust on a smoke detector can cause a false alarm condition. The detectors should be periodically vacuumed.

Each detector will emit a short flash of light every 60 seconds. This indicates that the detector is powered by not necessarily operational. To test the detector for correct operation, press the button located on the underside and hold down until the detector enters an alarm condition. Protect your ears when doing this test.

If the smoke detectors emit a loud periodic “Beep”, this indicates a flat battery. Check that the mains power is turned on, and then check the battery. Mains power is indicated by the Red light on the side of the control box. If no fault can be found, disconnect the battery by following the Emergency Shutdown procedure, and call for service.

Disabling The Smoke Alarm System

Press  then **0**

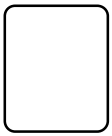
GREEN

When disable, a continuous message will be displayed on the keypad.

Even though the main system has been disarmed which will silence the main alarm, an individual detector will still sound its internal siren, if smoke is detected. To render a detector completely inoperative, disconnect its power supply by removing the snap fastener.

It is not recommended that the smoke system be left switched off. The protection afforded by the system will not be available.

Sounding The External Siren During A Smoke Alarm
(if Plus Upgrade fitted)

Press  then **5**

GREEN

This is useful if the neighbours are to be alerted.

Optional Gas Detector

An optional gas detector may be installed to the MX system.

The gas detector is installed in the smoke detection circuit, and all information relevant to the smoke detection system will apply to the gas detector.

The gas detector is designed to detect both natural and LPG gas.

The detector's internal siren will also sound during an alarm condition.

An isolator switch is located on the side of the gas detector, should it become necessary to switch it off.

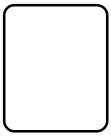
SECURITY SYSTEM

The security system is alarmed by movement detection by a Passive Intra-Red Detector (PIR).

RESET

If the display locks-up on any text, press reset on the keypad. If that does not unlock the display the red reset button inside the master control box will need to be pressed. To achieve this you will need to unscrew the lid. (see control box sketch for reset button position.) All parameters will have reset to their default values, e.g. 5 hour timer, devices associated with sentry activation, and the PIN's, therefore you will need to re apply your preferred options.

TO ARM THE SECURITY SYSTEM

Press  followed by your four digit PIN.

SECURITY

Each keypad will give an acknowledging "Beep", and the countdown will commence allowing time to leave the secure area. The amount of time will depend on the GREEN and GOLD setting.

To Disarm the system repeat the procedure.

Should you make an error during this Arming or Disarming process, 3 "Beeps" will be heard, and the process should be repeated.

If during the Arming process the display "SECURITY SYSTEM UNAVAILABLE"
occurs, a fault has been detected with the system. Check the tamper switches, and perimeter security if installed. If no fault found, call for service.

If the security system has been "Set Off" and not disarmed within the set period, the message "SECURITY SYSTEM TIMED OUT" will be displayed. The external siren will be switched off, but the internal sounder and strobe light will continue to alarm. This "Time Out" period will be determined by GREEN and GOLD.

TAMPER ALARM

Tamper switches are installed in the control box front cover, and at the rear of the control box and siren cover. If any of these switches are opened, a message will be displayed "TAMPER ALARM", and the system will enter an alarm condition.

To cancel the alarm condition, Arm and Disarm the security system using the correct PIN. The Sirens will stop, but the "TAMPER ALARM" message will continue to flash until the tamper alarm condition has been corrected.

It is not possible to open a tamper switch without the security entering an alarm condition.

Please note that if the optional perimeter protection system has been installed, a perimeter intrusion will be identified on the display as a "TAMPER ALARM".

FALSE ALARMS

Should what appears to be a “False Alarm” have occurred, carefully review the situation.

Make sure that no pets were left in the home.

Check that no unusual heat source such as a heater, wood fire, clothes dryer etc. were left turned on.

A large moth or spider crawling across a PIR may also cause an alarm.

Generally PIR’s are reliable, and a false alarm will have been caused by a detection of movement, or extraneous heat source.

If a repeated false alarm is experienced, and no valid reason for the alarm can be found, call a service person.

USING GREEN AND GOLD TO CHANGE THE SYSTEM

SECURITY ENTRY AND EXIT DELAY

The standard delay is 20 seconds. It may be amended as follows:-

Press [ ] then [**3**]

GOLD

This delay time is the period allowed by the system for the user to leave and re-enter the secured area.

The shorter the allowed time, the more secure the system will be.

SECURITY WITH LIGHTS

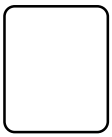
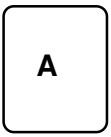
Press [ ] then [**6**]

GREEN

The system may be set to switch on the backup lights when alarming. This feature will serve as an additional deterrent to an intruder.

The lights will remain lit for the same period as the siren time-out.

SECURITY TIME-OUT

Press  then 

GOLD

The time that the external siren is allowed to alarm for, is set by the noise abatement rule in your area. If you are unsure of this, consult your local council. The MX Plus system has been pre-set at 10 minutes.

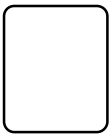
Resetting Your Pin Number

The system responds to two PIN's. Usually a master and secondary PIN. The secondary PIN may be given to say, a tradesperson to perform a task in the home, and then changed to once again restrict access. Both PIN's have the same access capabilities.

If only one set of pin numbers is to be used by all occupants of the premises it is recommended that you enter the same number into both PIN's.

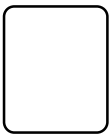
The standard PIN supplied with the system is 1234.

It may be amended as follows:-

1. Press  then 1234

SECURITY

The system is armed.

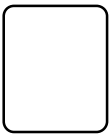
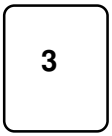
2. Press  then 1234

SECURITY

The system is disarmed.

You now have 25 seconds to enter a new pin.

Only a person with access to a current PIN may change the PIN. The 25 second period ensures this.

3. Press  then 

GREEN

Enter the new 4 digit PIN. For example 9999.

The system always retains the last 2 PINS's.

Valid PIN's are now 9999 and 1234.

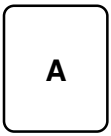
If another PIN 5555 is entered, PIN 5555 and 9999 would be current.

PIN's being entered will not be displayed.

All 16 keys may be used for PIN's.

If PIN's have been forgotten the system will need to be reset. Follow the emergency shutdown procedure to remove all power to the system, including battery power. The PIN's will now revert to 1234.

PANIC ALARM

Press 

PANIC

This alarm works in two ways as follows:-

A short press for a period of less than 2 seconds will sound the alarm whilst the key is pressed.

A press for longer than 2 seconds will "Latch" the alarm and cause it to remain on. Press the key again to cancel the latch on the SAME KEYPAD that caused the alarm. A flashing display will indicate the "Latching" keypad.

Optional Perimeter Protection Kit

The optional perimeter protection kit may be attached to any number of windows and doors, and is operated by the breaking of a switch attached to a window or door.

Perimeter protection is designed to trigger an alarm when a door or window is opened, and will protect occupants when they are at home. Use the normal PIR protected security system when you leave the home.

Perimeter protection is also a good idea if the PIR';s are being used to operate the sentry system lights, and protection is required at night.

The perimeter protection may be operated total independently from the rest of the system and will detect the opening of window and doors.

Operation

To arm the system, switch ON the toggle switch located on the keypad.

If a door or window is opened, the system will alarm.

To cancel the alarm, Arm and Disarm the security system using your PIN.

The message "TAMPER ALARM" will be displayed. The sirens will stop, but the message will continue to be displayed until the door or window is closed, or the perimeter protection is switched off.

SENTRY SYSTEM

The MX sentry system utilises the PIR's, to operate the system when movement by a PIR has been detected.

The response of the system to a PIR movement, and the respective GREEN and GOLD setting, will determine the action taken by the system.

The sentry system has control over the following responses:-

Once switched on, sentry may only be switched off at the same keypad from which it was switched on. This is for security reasons.

The SENTRY system may be used in two modes:-

1. Active Mode. Is similar to the security system and will alert the occupants of an intrusion. If the system is to be used in Active mode, it is advisable to mount the keypad in the sleeping areas so that it may be armed before retiring for the night. There is no re-entry delay with the sentry mode, unlike the security mode.

2. Passive Mode. May be used to automatically switch on the backup lighting, and possibly "Beep" the keypad.

SENTRY is normally used in this mode to provide lighting for the family.

Active Mode

To operate the system in ACTIVE mode.

Using GREEN and GOLD, set the options that are required.

This will probably be the external siren, and internal sounder and external strobe light, and possible the backup lighting.

Passive Mode

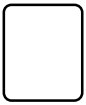
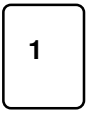
In PASSIVE mode the sirens would not be set.

Use GREEN and GOLD to set your options. These would normally be the emergency lights, and possibly the keypad “Beeper”.

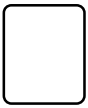
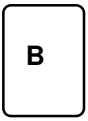
The lights have been designed to automatically switch off after the PIR’s have detected no further movement for the period set in GREEN and GOLD.

If a keypad has been mounted in the bedroom, the “Beeper” is a very effective way to alert a sleeping mother that a child has woken and is walking around the home. The noise from the keypad will be sufficient to wake a sleeping person, but not loud enough to alarm the child.

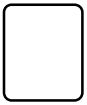
The most effective way of using sentry is as follows:-

Set the sentry system to attach the lights press  then 

GREEN

Set the “Beeper” if required press  then 

GREEN

On retiring for the night press 

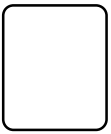
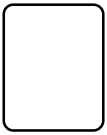
SENTRY

If movement is detected the lights will immediately switch on, and remain switched on for 3 minutes, or as long as movement is detected. The 3 minute period is extended each time movement is detected. This 3 minute period may be changed using GREEN and GOLD.

When the person who triggers the lights returns to bed, the lights will automatically turn off after the set period.

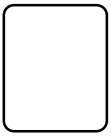
SETTING GREEN AND GOLD WITH SENTRY

TO SWITCH ON THE LIGHTS

Press **1**  then 

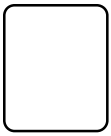
GREEN

TO SWITCH ON THE INTERNAL SOUNDER AND EXTERNAL STROBE LIGHT

Press  then **2**

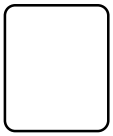
GREEN

TO SWITCH ON THE KEYPAD “BEEPER”

Press  then **B**

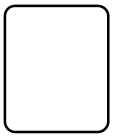
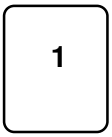
GREEN

TO SWITCH ON THE EXTERNAL SIREN

Press  then **A**

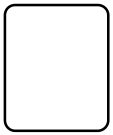
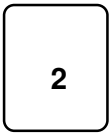
GREEN

TO ALTER THE LENGTH OF TIME FOR WHICH THE LIGHTS REMAIN SWITCHED ON

Press  then 

GOLD

TO ALTER THE SENTRY EXIT DELAYED TIME

Press  then 

GOLD

This is the length of time required to vacate the protected area, before SENTRY is triggered. The standard time is set at 20 seconds.

WINTER PROTECTION

Whilst the Celdek pads do not need covering during the winter, heat loss from the home, through convection from the ceiling vents and ductwork, and draughts entering through the Air Conditioning Unit necessitate some form of winter protection.

The protection usually takes one of the following forms:-

1. Winter Cover
A canvas type material cover or “bag” that fits over the whole unit.

2. Closing Off The Louvres In The Ceiling Vents Located In Each Room
All vents must be closed.

3. Four Seasons Weather Seal*
This is a damper that is fitted into the dropper duct, located below the Air Conditioning Unit. This is a self closing device, that automatically closes each time the Air Conditioning Unit is switched off.

With options 1 and 2 the Exhaust Mode may not be used. The fan motor requires adequate air flow to maintain internal cooling, and by restricting or preventing air flow over the motor, it will overheat and be damaged.

Option 3 is specifically designed to operate whilst the unit is running in either Cool,Fan or Exhaust mode. When a Four Seasons Weather Seal has been installed, it automatically seals the dropper duct when the air conditioning system is not being used.

The Four Seasons Weather Seal eliminates the need to climb onto the roof and fit or remove some form of winter closer.

*Not available for Top and Side Discharge models

GENERAL INFORMATION

IMPORTANT TO NOTE

- Take care not to obstruct the ventilation slots located in the keypad base. Obstruction of these slots may cause an incorrect temperature reading to be recorded.
- The temperature displayed will be accurate for the purpose of operating the AUTOMATIC feature of your Air Conditioning System. Since this temperature recording may be affected by keypad placement, air flow past the keypad, and other factors, a calibration screw has been fitted to the rear of the keypad. Please refer to Appendix 1 for calibration details.
- If the unit appears to surge at times, check that strong wind drafts are not the cause. A strong gust of wind will cause the fan to race momentarily as it is 'wind assisted'.
- At times of high humidity, cooling performance will be diminished.
- To ensure that a room is cooled adequately, introduced air must be able to escape the room. Refer to the Relief Air section on page 13.
- The cooling ability of a system is not only related to the efficiency of the unit design, but also to the ductwork design and professional installation. Insulated ceilings will lower internal temperatures significantly over non insulated ceilings. The same applies to ductwork.
- During normal operation of the system in Cool Mode, if either a Bleed-Off method or Water Management System is used to maintain water purity, a discharge of water will occur from the overflow pipe. This water will have been re-circulated through the pads many times, with moisture extracted through the evaporation process to produce the cooling effect. This evaporation process results in a build-up of minerals and solids in the water, which, when discharged through the overflow pipe may be harmful to certain plants if the water is channelled onto the garden. This discharged water is not suitable for animal or human consumption, but as a general rule is normally acceptable for use on the garden. We suggest that the water be tested in limited quantities on the garden, to ensure that it has no adverse affect on any plants, before allowing full discharge onto the garden.
- Never operate the system if a winter cover (bag type) or solid winter shut-off panels have been fitted, or if the room vents have been closed off. This will cause overheating and result in damage to the motor.
- If some form of winter protection is desired, and the system is required to be used during winter (especially in Exhaust Mode), we recommend a Four Seasons Weather Seal*. Consult your Dealer for advice.

  *Not available for Top and Side Discharge models.

LOW BATTERY WARNING

If the system's rechargeable battery drops below a certain voltage, the keypad backlight will be switched on, and a"LOW BATTERY" warning will be displayed.

This may be caused by one of the following:-

1. The battery may need replacing.

2. Extended use of the system without mains power connected.

3. Extended use of the Backup lights, even with mains power connected.

If either 2 or 3 are the cause, the battery may need replacing. A battery's life expectancy is somewhere between 3-5 years depending on usage. Extensive use of the backup lighting circuit will reduce the battery's life.

When the "LOW BATTERY" message is displayed, press any key to re-set the system. The message will be removed from the display. Do not use the backup lights if the battery is suspect. If the message is repeated after approximately 12 hours, the battery should be replaced.

If the battery needs to be replaced only remove the old one when a new battery has been obtained. DO NOT OPERATE THE SYSTEM WITHOUT A BATTERY INSTALLED.

A flat battery will take approximately 18 hours to re-charge.

A flat battery may render some of the functions inoperable. Two exceptions to this rule are the emergency conditions, panic alarm, and the smoke lighting circuit. They will continue to operate on a low battery, until the battery has been completely depleted.

EMERGENCY SHUT DOWN

Should the occasion arise where a malfunction has caused an alarm condition which cannot be cleared by normal keypad operation, it will be necessary to disconnect all power to the system, until a service person can be contacted.

Take the following steps:-

1. Switch off the mains power to the air conditioning system. The PLUS functions will now revert to battery backup, which may also need to be disconnected, if the alarm condition continues.

2. Remove the 4 front screws from the Control Box (This is also referred to as the Master Control Unit, or MCU). This box is white in colour, and may be identified by the 5 coloured lights on the underside.

3. Remove the front cover, and pull off one of the terminals attached to the battery. All power supplied to this box is low voltage, and is therefore not dangerous.

4. Call a service person.

RELIEF AIR

An evaporative air conditioner operates on one very important principle. It introduces into the home or building, large amounts of fresh air and displaces warm stale air out through doors, windows and security vents. If the system is not able to expel the large volumes of introduced air, then the area will become pressurised, the fan motor will automatically begin to “coast” and the effectiveness of the system will be reduced. COOL AIR IN - WARM AIR OUT. A very simple principle. By being able to expel all of the introduced air, the system will operate to its maximum effectiveness.

It is also possible to control which areas of the home receive maximum cooling through this principle. By closing the window of an unused room, the air will exit through the door, thus increasing the effectiveness of the air conditioner to the other rooms.

Normal practice, depending on constraints within the roof space, is to position outlets away from windows, in a room. By opening a window away from the vent, the air will pass through the room thereby cooling it. By closing all windows and opening the door, the air will exit directly through the door opening. This will result in a reduced cooling effect in that particular room but a greater cooling effect in other rooms. By adjustment of the opening sizes of windows and doors, maximum effectiveness may be achieved. Do not close the door to an air conditioned room. Closing the door may result in a moisture build-up in the room.

For the security conscious, persons not wishing to leave doors and windows open, particularly at night times, a relief vent may be fitted. This consists of a grill usually situated in the ceiling with a self closing mechanism. When the air conditioner is operating, the vents will be forced open by the air pressure. This has the added advantage of helping to cool the roof space, thereby creating a ‘cool barrier’. During the day, the relief vent will be unable to maintain sufficient relief air flow, and it will be necessary to open additional doors and windows. During the evenings when the temperature reduces, the relief vent will normally be sufficient. If the Timer is set to switch the system on, in order to return to a cool home, one has to be sure that adequate relief or exhaust air openings will be present when the system turns on. A security vent is also useful for this purpose.

To maximise performance the following exhaust openings should be provided. The model numbers are graded according to cooling capacity. Allow 0.5 sqm of exhaust for 30 units of model number. For example allow 3.0sqm for a model 160. Use the following table to calculate opening sizes. The model number of your unit may not exactly match one of the following. Choose the one nearest. The opening sizes suggested are not necessarily the only ones to be used, however they will act as a guide.

If an increase in fan speed becomes apparent when a door is opened, this is usually a good indication of insufficient open doors or windows.

With all evaporative air conditioners the 'drier' the outside air is, the greater the temperature drop or cooling capacity that can be achieved. Your evaporative air

MODEL NUMBER	OPENING REQUIRED
80	1.5 SQM
105	2.0 SQM
130	2.5 SQM
160	3.0 SQM
185	3.0 SQM
210	3.5 SQM

conditioner will not operate to maximum effectiveness on humid days, but will still achieve effective cooling. In high humidity areas your evaporative air conditioner has been selected with a higher air change rate, or, in other words, with a higher capacity to compensate for the smaller drops in temperature achieved. In these areas maximum cooling will be achieved by ensuring that there is more than adequate relief openings and the unit is started early in the day, to stop any build up of latent heat within the cooled space. Your dealer will have designed your system to suit local climatic conditions. In days of extreme humidity we recommend you run your unit on FAN mode only.

INITIAL START-UP

An odour may be detected after the start-up of your Cool Breeze system.

After wetting, the Celdek filter pads may emit a 'mouldy' type smell which can last for up to 2-3 days. It is characteristic of Celdek material until it becomes fully saturated, and is not harmful or particularly unpleasant.

The fan motor may also have an 'electrical' type smell for a short period as it heats up initially, and residual varnish paint is 'burnt off' the motors surface.

END OF SEASON MAINTENANCE

At the end of each season, certain precautionary steps should be carried out, to ensure that the system will be in good working order for the start of the next season.

- Turn off the power to the unit at the isolating switch, or remove the fuse. This will normally be located in the meter box. An internal isolator is located on the electrical box, inside the unit.
- Turn off the water supply to the unit.
- Remove the lid.
- Hose down both sides of the Celdek pads to remove any dust or pollen which may have accumulated. Take care not to squirt water into the Dropper. Turn the pads inside out, so that the side previously facing the outside is now facing the inside of the unit.
- Check that all water channels are clear, and that there are no obstructions in the water distributor, located on top of the unit. Clear any debris from inside the pump basket.
- Gently but thoroughly clean the base of the unit. A mild detergent may be used, but no solvent type product which may react with the polymer.
- Replace the lid, and ensure that it is securely fastened.

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PRE SEASON MAINTENANCE

We recommend that an annual service be performed on the system to keep it in top operating condition. Your Dealer will advise you on this.

- Isolate power if necessary.
- Remove the external cover if fitted.
- Remove the lid.
- If necessary clean the base.
- Turn on the power at the isolating switch, or replace the fuse in the meter box. Turn on the water supply. If the unit has a Drain Valve fitted (identified as a grey plastic valve with a black top, screwed into the overflow pipe), operate the system in Cool Mode, and observe that the Drain Valve closes, and that the tank fills with water. If no Drain Valve is fitted, the base should have immediately filled with water when the water supply tap was turned on.
- Adjust the water level if necessary. This is identified by an indent on the supporting strut in front of the Float Valve Assembly. See the installation guide for exact location if you cannot identify this mark. Ideally this level should be between 50mm and 60mm from the lowest point in the base. The float level adjuster is located at the base of the steel shaft attached to the black float chamber.
- Check that the water is being evenly distributed over the pads.
- Where a Bleed-Off System has been fitted (located inside the unit over the Drain), set the Bleed-Off rate in litres per hour, according to the unit capacity. Consult the Installation Guide for this rate..
- Check the operation of the Drain Valve if fitted, to ensure that it opens within 4 minutes of the OFF key being pressed.
- Replace the lid, and ensure that the bolts are securely tightened.

FAULT FINDINGS

Symptom	Possible Cause	Remedy
Unit not cooling.	*Fan is not rotating.*	*Check that the power is turned on. Also check the isolating switch located on the electrical box in the unit.*
	Power is present.	*Wait a period, to ensure that the unit is not in a Housekeeping Cycle.*
	Fan running, but no air from the outlets.	*Ensure Winter Protection covers are not fitted.*
	Fan working, but no water reaching unit.	*Check that the water isolator tap is turned on.*
	Water is entering the unit, but not circulating over the pads.	*Check that the pump is operating.*
	The unit is operating normally.	*Check the relief air.*
Unit continues to operate when turned off.	*Unit may be carrying out a Housekeeping Cycle.*	*Wait for 15 minutes.*
Unit continues to operate 15 minutes after being switched off.	*Check that the system is not in a 1 hour end of operation cycle, on AUTO mode.*	*Wait 1 hour. System should complete end of day cycle.*
Water continually drains from unit.	*Is Drain Valve fitted?*	*YES - Check water level. May be set too high.* *NO - Normal operation for Bleed-Off System. If excessive, adjust Bleed-Off rate. Check water level.*
Unit does not respond to key press.	*Is key pad locked-out?*	*Activate reset switch on keypad.*

MASTER CONTROL UNIT

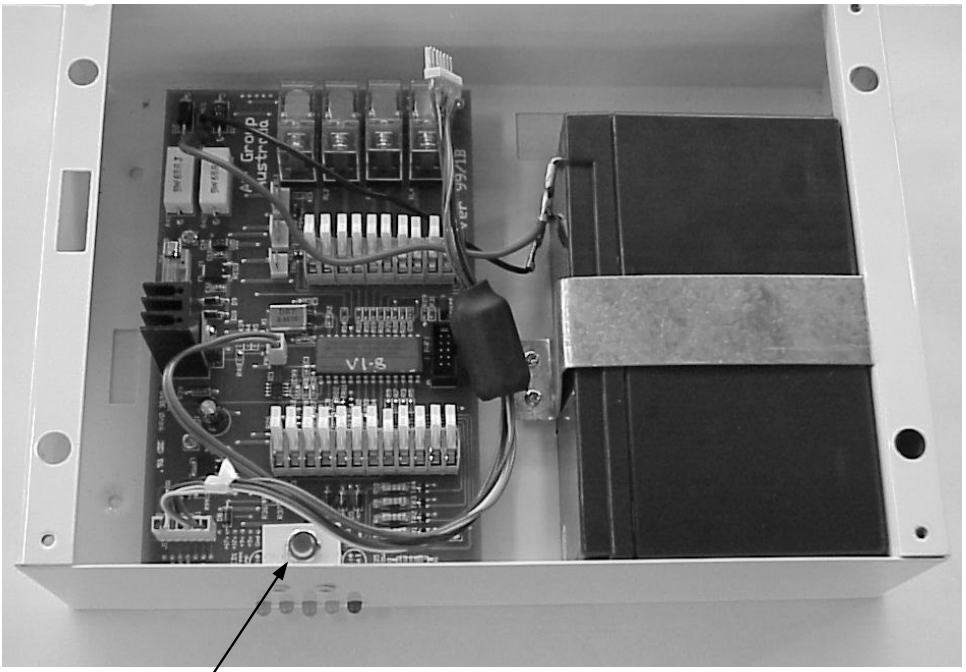
To assist the owner in establishing the “status” of their system, and for fault diagnosis, five LED’s (lights) have been incorporated on the Master Control Unit.

They are as follows:

	RED	YELLOW	GREEN
1. Power	Mains power is being supplied from the roof unit.		
2. Exhaust	The exhaust feature is active.		
3. Drain On	The drain valve is energised.		
4. Fan On	The fan motor is operating. This light flashes intermittantly.		
5. Pump On	The pump is active and water is entering the unit.		

RESET

If the display locks-up on any text, press reset on the keypad. If that does not unlock the display the red reset button inside the master control box will need to be pressed. To achieve this you will need to unscrew the lid. (see control box sketch for reset button position.) All parameters will have reset to their default values, e.g. 5 hour timer, devices associated with sentry activation, and the PIN’s, therefore you will need to re apply your preferred options.



RED RESET BUTTON

RESET BUTTON

SPECIFICATIONS

	TYPE	MAX. NUMBER IN SYSTEM
SMOKE DETECTOR	BRK 83R	NO LIMIT
PIR	NES QUANTUM	4
LIGHTING	12V 5W TUNGSTEN HALOGEN (420 MA)	7 (MAX. 3 AMPS TOTAL)
EXTERNAL SIREN	WATERPROOF - INTERNAL DRIVER (550MA)	2 (MAX. 1.1 AMPS)
INTERNAL SIREN	PIEZO TYPE (300MA)	4 (MAX 1.2 AMPS)
STROBE	WATERPROOF	2
BATTERY	12V - 7AH LIFE APPROX. 5 YEARS SYSTEM CHARGING RATE 800 MA	1

APPENDIX 1

GREEN AND GOLD FEATURES AND DELAYS

GREEN/GOLD	KEY	DESCRIPTION	MIN.	MAX.	FACTOR Y SETTING	YOUR VALUE
GOLD	1	Sentry Lights Delay	1 minute	10 minutes	3 minutes	
	2	Sentry Exit Delay	1 second	59 seconds	20 seconds	
	3	Security Entry/Exit	1 second	59 seconds	20 seconds	
	4	Clock Set	0.00	24.00	0.00	
	6	Daily Start Time	0.00	24.00	12.00	
	8	Wash Duration	0 minutes	10 minutes	3 minutes	
	9	Flush Duration	0 minutes	15 minutes	8 minutes	
	0	Inactivity Delay Time	0 hours	23 hours	0 hours	
	A	Security Time-out	1 minute	15 minutes	10 minutes	
	B	Daily Stop Time	0.00	24.00	12.00	
	D	Drain Interval	0 hours	23 hours	5 hours	
	*	Pre-Cool Exhaust	0 minutes	10 minutes	0 minutes	
GREEN *	1	Sentry With Lights			On	
	2	Sentry With Sounder			Off	
	3	Security-Enter New PIN			1234	
	4	Smoke With Sounder			On	
	5	Smoke With Siren			Off	
	6	Smoke With Lights			On	
	7	Local Keypad Beeper			On	
	8	Drain Wash Water			Off	
	0	Smoke Disable System			On	
	A	Sentry With Siren			Off	
	B	Sentry With Beeper			Off	
	D	Auto Temperature			Off	

*** Denotes, available only if Plus Upgrade is fitted.**