

DEALER STAMP:



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DATE INSTALLED _____
SERIAL NUMBER _____
SOLD BY _____

INSTALLED BY _____

STARTUP TESTING _____



monarch

INTUITIVE SERIES

DELUXE COMMAND

CENTRE

EMC  N376

AS3136/NZS6232 App No: N15416

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AMPAC

Ampac Int. Systems Ltd
P.O.Box 1000-33 N.S.M.C.
Auckland, New Zealand

WARRANTY POLICY

1. We undertake to repair, or at our option, replace without cost to the purchaser either of materials or labour, any part which within 12 months from the date of purchase is found to be defective, provided that the product has been used in accordance with the Instruction Book, under normal domestic use and has not been subject to misuse, neglect or accident or dismantled, repaired or serviced by any other than an authorised Ampac Int. Systems Ltd or Crestag Pty Ltd service agent.

2. All claims for warranty must be done through the retailer or supplier from whom the product was purchased. Proof of purchase or the warranty card stamped by the supplier must be supplied.

3. This warranty is a "return to base" warranty which means the item must be returned to the manufacturer for repair. An exchange unit may be provided in this case. If replacement or service under this Warranty Policy is required and distance prevents you calling personally, forward your product FREIGHT PREPAID to the nearest authorised Ampac or Crestag service agent.

4. Any costs incurred to repair a unit that is not covered by warranty will be passed on to the consumer including cost incurred to remove the faulty unit and replace with an exchange unit. Ampac and Crestag are not responsible for any onsite costs for goods not covered by warranty.

Model _____ S/No _____ Date purchased _____

OPERATING INSTRUCTIONS:

The Intuitive Series heat pump and control system has been designed so that the Spa pool can be automatically operated maintaining pre-determined heat and filtering operations. An in built clock puts the system into a sleep mode when absolute quiet is needed.



Fig1: Control box, Poolside switch & Heater assembly

Before operating the Spa pool ensure that the following conditions are checked:

- 1/ That the Spa pool support equipment is properly plugged in. Check that each item is plugged into the correct socket as marked on the controllers label.
- 2/ Ensure that the power supply is correctly rated. I.E. A 15 amp system is plugged into a 15Amp rated outlet. Rating is printed on front decal of control box.
- 3/ The control **must not be installed on an extension cord**. If the location of a suitable supply is further from the Spa than required ensure a qualified Electrician fits a suitable power supply lead or power point.
- 4/ Fill the Spa pool to the correct operating level as specified by the manufacturer.
- 5/ The Spa pool equipment must be adequately ventilated. Ensure the manufacturer has provided proper ventilation in Spa pool cabinet.

6/ Ensure that you the Spa pool owner understands how to operate the equipment. Check with your supplier if you are having difficulty.

Note: In some installations, severe electrical interference can cause the control to lock into a fault condition. If this continues, check with an Electrician or with the supplier's service representative to ensure that your power supply is adequate. The manufacturer does not guarantee that all power supplies are suitable.

SPA POOL START UP

- 1/ The Spa pool must be properly filled. Ensure there is no obstruction to the skimmer (if fitted) and the water level is well above the minimum level.
- 2/ Check that all valves are in correct operating position.
- 3/ Ensure cartridge filter is properly cleaned.

NOW -

- 1/ Turn the power supply switch on where lead is plugged into supply.
- 2/ Turn the mains switch on. Note: Some models feature an Earth Leakage Circuit Breaker on the cord set and the reset switch should be in the on position. When the switch is initially turned on the pump, blower and accessories should momentary switch on. This is simply the command centre resetting itself.
- 3/ Press the Hot button so that the Bar Graph indicates approx. 3/4, allowing the system to operate (fig 2.5)
- 4/ The control automatically starts in demand heat mode. The switch Pump light should be a yellow/orange colour. (fig 2.9).
- 5/ The time clock should be adjusted to allow system to operate (pg 5). Spa pool should now be heating. Note: Initial heat up time will vary and is dependent on ambient temperature, type of cover, size of pool, Quality of insulation etc. If the pump is not operating refer to trouble shooting section (pg 9).

PRIMING FUNCTION

The system will automatically run for 10 seconds to prime itself. If it fails to achieve this the lamp associated with the Pump 1 switch will flash (fig 2.9). The Pump 1 switch can be further pressed as an aid to priming. Once water is achieved the control will operate in the automatic mode. (See fault finding section for possible causes of water absence)

PUMP 1 FUNCTION SWITCH

The Pump 1 switch (fig 2.12) controls the operation of the pump and heater and selects between automatic/clock and manual modes. When in the automatic mode (default start up condition) the lamp shows orange. The time clock will automatically turn the system off and on at preset times. (See time clock setting instructions - page 5)

SPA WATER TREATMENT



RECOMMENDED CHEMICAL VALUES.

CHLORINE..... 1.5 - 3.0 PARTS PER MILLION (PPM)
PH..... 7.4 - 7.6
TOTAL ALKALINITY... 100 - 120 PPM

FAILURE TO MAINTAIN YOUR SPA WATER CHEMISTRY TO THE ABOVE VALUES, CAN BE UNHEALTHY BOTH TO YOURSELVES AS BATHERS, AND TO YOUR SPA POOL EQUIPMENT.

PH.

This is a measure of how acid or alkaline the spa water is (below 7.0 is acid, above 7.0 is alkaline,). Low PH will cause corrosion of any metalwork, in the water. (element, thermostat pockets,) High PH will cause scale formation and cloudy water.

TOTAL ALKALINITY.

This is a measure of how resistant your spa water is to change of PH, A low TA (0 - 80) ppm will allow the PH to fluctuate rapidly, normally to the acid end, and will make it very hard to correct the PH back to the ideal range.

CHLORINE.

Levels of sanitizer is important to prevent the build up of bacteria, and algae in the pool water. Chlorine is not the only sanitizer available to do this. Other sanitizers are Bromine, Ozone.

DAMAGE TO THE ELEMENT, THERMOSTAT POCKETS, AND ASSOCIATED METALWORK, DUE TO THE POOR MAINTENANCE, OF WATER CHEMISTRY, IS NOT COVERED BY WARRANTY.

TROUBLE SHOOTING GUIDE

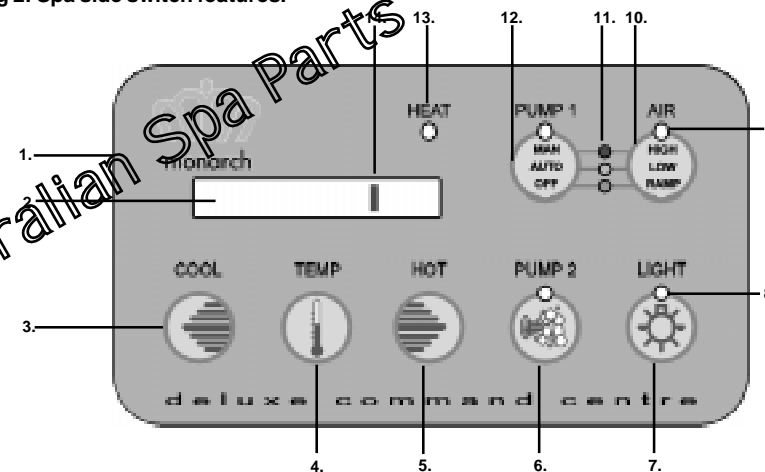
FAULT	CAUSE	REMEDY
No power (LED's not on)	Supply fault	Check fuse or circuit breaker at switch board. Check RCD on cord set.
Power available but will not run.	Air lock in plumbing.	Re-plumb system to eliminate air-locks.
No water (LED lamp flashes on pump switch)	Valves shut. Air lock. Insufficient water. Probe requires cleaning	Open valves. Correct plumbing. Make sure water above skimmer minimum level. Call serviceman to clean water probe.
Pump will not switch on.	Pump 1 switch in time clock mode.	Switch to manual mode. Make sure pump is plugged in securely. Check overload switch on motor if fitted.
Pump operates but no pressure.	Jets turned off (if fitted). Water level low. Suction blocked. Air leak on suction line. Filter dirty.	Turn jets on. Top up pool to correct level. Unblock suction. Repair air leaks. Clean filter.
Blower/Turbo/Pump/Jet will not go.	Accessory not plugged in.	Make sure accessory plugged in to socket on control box.
No Light.	Light not plugged in. Lamp blown.	Check plug is secure in correct socket on control box. Replace blown lamp.
Spa will not reach heat or has trouble maintaining heat.	Temperature control set too low. Air operating. Excess heat loss. Spa not operated long enough. Clean filter - check for obstructions.	Adjust temperature control hot button to increase heat. Turn Air off (heating is disabled while operating). Fit pool cover. Check time clock settings (sleep mode). Dependant on pool insulation & site location, heating performance may be effected.
LED's flashing	High temperature cut out. Electronic failure.	Turn power off at mains switch for 5 secs. Refer fig 7: page 9 for reset information.

IF ANY OF THE ABOVE MEASURES FAIL TO RECTIFY THE LISTED FAULTS CONTACT YOUR DEALER OR THE NEAREST SERVICE CENTRE LISTED ON BACK COVER.

During the on periods as set by the clock and while in automatic mode the pump and heater are controlled by the thermostat setting, commonly referred to as a demand heat system. This means that the pump and heater switch on when the temperature has dropped by a defined amount. They continue to operate until the temperature set point is reached.

The default start up mode is always automatic so that in event of a power failure, the pool always starts up in the heating mode. When switch is depressed it toggles between manual, auto and standby modes as indicated by mimic panel (fig 2.11).

Fig 2: Spa side switch features.



1. Illuminated switch surround.
2. Temperature Bar Graph Display
3. Temperature adjust down
4. Check temperature (NB. See Page 5)
5. Temperature adjust up
6. Pump 2 on/off
7. Light on/off
8. Led status indicators for Jet & Light functions
9. Led Tri colour Leds for Mode & Air switch operations
10. 4 state air control switch.
11. Mimic panel
12. Pump 1 switch
13. Heating indicator
14. 20 segment display showing set & actual temperatures.

PUMP 1 SWITCH (cont)

The Auto mode is reached by pressing switch until the indicator shows Yellow/Orange. The controller will switch the pump and heating on and off as well as the intelligent filtration cycling if required. This mode is controlled by the time clock settings.

The pump can be operated manually at any time by pushing the switch until the lamp indicates red. During manual operation the pump will run up to 3 hours with the heater turning on and off under thermostat control. Re-pressing the switch restarts the 3 hour timer and will give a further 3 hours running.

AIR SWITCH

The Air Blower injects air into the spa pool water usually from the seat well or floor of the spa depending on design. Often the air will feel colder than the water and can be used as an aid to reducing water temperature as desired by the bather. While the Air blower is operating the pool heating is automatically turned off (Load shedding) (fig 2.13). When Air Blower is turned off, the heating indicator (fig 2.13) extinguishes and heating resumes if required, dependent on operating mode. Air Blowers are available in unheated/heated versions.

Multi speed version:

The multi speed switches the Air Blower through three different speeds. When switch pushed the blower starts at full speed with the lamp indicator showing Red. Each subsequent step reduces speed with the lamp changing to Yellow/Orange for mid speed and Green for low speed.

Ramping version:

The ramping version switches the Air Blower through two fixed speeds and a full range slow oscillating mode.

THE LIGHT SWITCH

This is a single on/off function normally used to run the pool light. When on, a red lamp is illuminated.

NOTE: The light function has an in-built 30 minute timer.

THE PUMP 2 SWITCH

This switch (fig 2.6) controls the Jet pump or other AUX operations. The LED lamp displays when active and the heat LED is extinguished (Load Shedding).

NOTE: The above 3 switch functions have an in-built 30 minute time out.

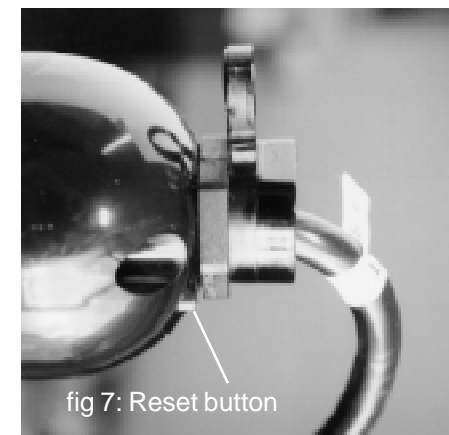
SWITCH INSTALLATION

The Intuitive control pad must be installed in compliance with local electrical body regulations. Particular attention should be paid to the certain zones that are part of the regulations. I.E. In certain areas the switch must be installed on the top side or outer side of the lip of the Spa pool.

A rectangular hole of 119mm X 61mm X 40mm deep is required to mount the Ampac control pad. Cable access is required at base of hole. Switch is mounted on a bead of silicon or self adhesive foam pad with label right reading from the bathers point of view. (Please note that the Yellow/Orange colour generated for the mode and air functions can only be viewed from this perspective). The switch lead should be positioned clear of other support equipment and their power leads where possible. It is advisable to allow a drip loop in switch cable to avoid water/condensation seeping into the controllers socket. The cable plugs should be orientated and pushed firmly into their mating sockets where the locking tabs will close about them. In case of removal use locking tabs which act as ejectors in reverse. Do not try to remove plug by its lead.

SPECIAL NOTE

All equipment attached must not exceed the total rating as specified on the cover of the control box. N.B. 10 and 15 Amp versions available. It is essential that 15Amp rated controllers are plugged into the correct mains socket. (The plug will not fit standard outlet sockets). When connecting to the power supply ensure that the lead is installed, in conjunction with all local electrical regulations. Do not install power lead where damage may be caused by people walking over it or similar. **DO NOT OPERATE CONTROL ON AN EXTENSION LEAD.** Ensure that plugs are in their correct position and fully inserted. If the controller flash's in fault condition check and operate the small **RED Over Temperature Reset Button** (fig 12) on the heating element cover. If the controller fails to reset allow time for the Reset Device to cool down (20 - 30mins) before trying again. If it still fails then Technical Service is required.



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connections. I.E. mounted above the filter opening or hair and lint pot or drainage valves. The controller must be protected from rain & splashing.

- C/ It must be mounted so that the end user can easily operate the time clock.
- D/ It must be mounted so that the leads of the support equipment can be easily plug into the control box sockets.
- E/ It must be positioned that the heating element can reach the heating "T" on pump.
- F/ It must be mounted so that all Spa support equipment is accessible and can be easily removed for service.
- G/ The control box must be installed on a stable platform so that it is not subjected to vibration.
- H/ The control box is designed so that the pump/s, blower and light where fitted can be plugged into the box. The sockets are clearly marked.

INSTALLATION OF HEATER ELEMENT

The element must be installed so that the lead is not stretched and that the element/control box can easily be removed for service. Pay attention to instructions on element cover ensuring that the heating element is positioned correctly. The 'O' ring provided must sit properly in the groove of the element holder before tightening the lock nut (fig 5). Tighten the lock nut by hand only, tools are not required (fig 6).



fig 5: 'O'Ring Placement



fig 6: Hand Tighten Only

THE THERMOSTAT CONTROL

The thermostat adjustment (Hot & Cool Buttons on Poolside switch) may need to be adjusted slightly for the first few days of operation to obtain the desired temperature of 36°C or that which is comfortable to the bather as indicated by a pool thermometer. The buttons must be depressed and held for 1 second before adjustment commences. Each step as indicated by the lamps is approx. 1°C. Fine adjustments can be made between steps by quick pushes of either buttons. Turning the thermostat to maximum will not make the pool heat any quicker. (Control range Approx. 22° - 42° degrees Celsius). The control has an inbuilt memory so settings are always remembered even after power cuts or long off periods.

THE TEMP BUTTON

This button (fig 4) is provided as an indicator to show actual temperature versus preset temperature. For an accurate temperature indication the pump should be run for several minutes so the water is well mixed while check is being made.

NOTE: The initial heating of the water will take a number of hours dependent on various factors:-

- 1/ The quality of the insulation around the pool.
- 2/ The quality and fit of the pool cover. (While heating or when not in use it is recommended that a good fitting cover be installed)
- 3/ The ambient temperature and wind chill factor and whether it is an indoor or outdoor situation.
- 4/ Proper water flow through the filter pump and heater.
- 5/ That all air bleeds where possible are turned off and the Air Blower is not operating.
- 6/ The quality of the power supply.

THE TIME CLOCK FUNCTION

The time clock is used to regulate the operating times of the pool equipment. This function is used to turn all operations of the pool to standby or sleep mode. The clock is only effective in the Auto mode. Any functions left on like the pool light, blower etc. will be terminated when the controller goes to sleep. When the clock allows the controller to run again, pump and heating will resume however the Light, Blower or Jet Pump will remain off until their switches are pressed again. The Electronic time clock can have up to 3 sleep periods per day (fig 3).

TIME SETTING:

First see that the Time Light (fig 3.1) is lit indicating that the current time is being displayed. Press the **SELEct** (fig 3.2) button if necessary, when nothing is flashing to select time.

- 1: Press the **SET** button (fig 3.3) for two seconds to start the hours flashing.
- 2: Press the **SELEct** button as necessary to get the correct hours. See that the **AM/PM** (fig 3.4) flag is correct.
- 3: Press the **SET** button to start the minutes flashing.
- 4: Press the **SELEct** button to set the correct minutes.
- 5: Press the **SET** button to stop the minutes flashing.

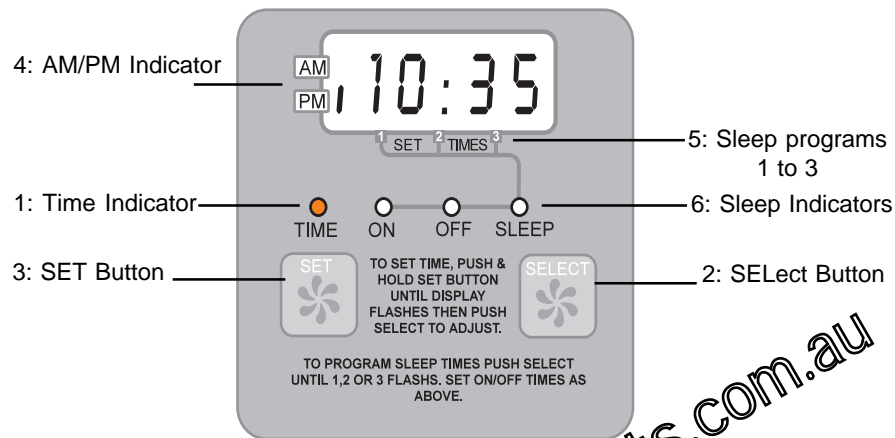


fig 3: Electronic Sleep Mode Clock

SLEEP SETTING:

When no times are flashing press the **SELEct** button to get the SLEEP(1) **ON** displayed. (**SET TIMES** (1) dot flashing on the display and **ON** lamp lit)

To set the SLEEP(1) **ON** time see time setting steps 1 to 5.

Press the **SELEct** button to get the SLEEP(1) **OFF** time displayed (**SET TIMES**(1) dot flashing and **OFF** lamp lit)

To set the SLEEP(1) **OFF** time see time settings 1 to 5.

The SLEEP(2) and SLEEP(3) times are set in the same way with the respective SET TIMES dot flashing.

INSTALLATION GENERAL

The control system has been designed so that it is easily removed for service, or that any attached ancillary Spa equipment can be removed without the need of an electrician. It is recommended that the control and equipment are positioned so they are accessible. The heat pump system allows for the filter to be installed on either the suction or return lines of the heater. All other equipment including chlorinators must be installed after the heater. The control box mounting points are located below the plastic cover screws (fig: 4A) at each corner of the lid. These are designed to take a type 6PK 25mm screw or a similar type on a mounting matrix of 190 x 140mm (fig 4).



fig 4: Mounting method for control box.

CONTROL BOX & HEATER INSTALLATION

The control box must be installed in a position considering the following matters.

- A/ The control box must be mounted in a vertical plane so that the front label is right reading. The ventilation holes in the controller lid must have unrestricted air flow.
- B/ It must be mounted so that water can not be splashed on it or it's