



**Aqua Pulse
Spas**

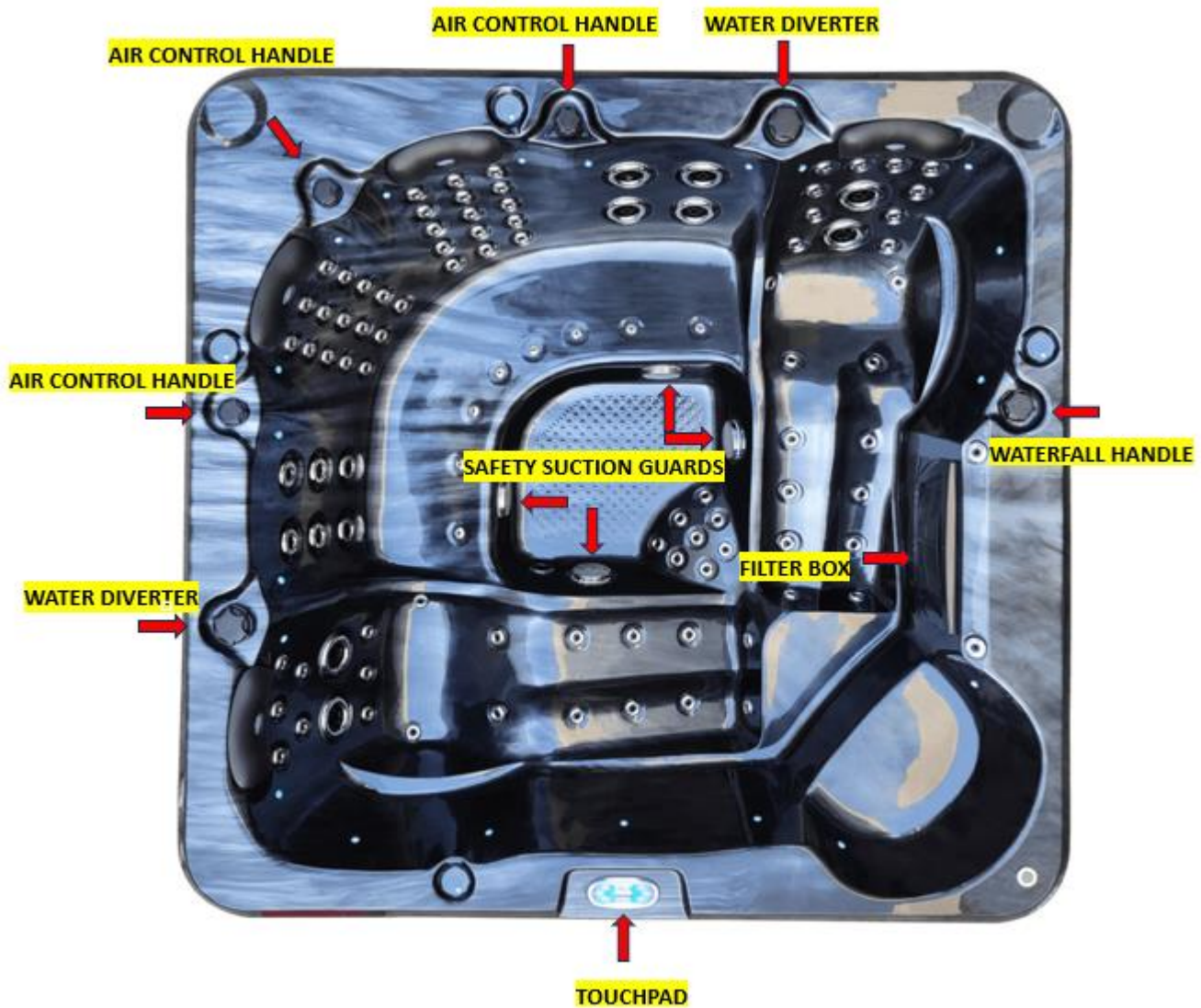
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STRADBROKE LUXURY SPA USER MANUAL



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IMPORTANT SAFETY INSTRUCTIONS

Your physiological response to hot water is very subjective and depends on your age, health and medical history. If you don't know your tolerance to hot water or experience dizziness, headaches, or nausea you should exit the spa immediately and cool down.

WARNINGS

Children in and around the spa should be supervised at all times by a responsible adult.

- Use caution when entering or exiting the spa, where practical install a safety grab bar or handrail and set of stairs. Turn off all the jets before entering or exiting the spa to improve visibility while entering or exiting the spa. Remember that wet surfaces can be slippery.
- Do not allow anyone to submerge their head under the water.
- Do not use the spa unless all safety suction guards are installed in the foot-well to prevent body and hair entrapment. Always keep the safety suction guards free of any debris. Do not sit in front of or on top of the safety suction guards or filter box. This will obstruct proper circulation of the water and may result in personal injury.
- Never operate the spa pumps without having all suction and return lines open.
- Always keep the vinyl cover installed and locked when the spa is not in use.
- Never allow anyone to sit or stand on the vinyl cover.
- People using medications and or having any adverse medical history should consult a physician before using the spa.
- People with infectious diseases should not use the spa.
- Do not use the spa if you are under the influence of alcohol or drugs.
- Do not consume alcohol or drugs while using the spa.
- Pregnant women should consult a physician before using the spa.
- As prolonged immersion in water temperatures more than 38°C (100°F) may damage your health, measure the water temperature with an accurate thermometer before entering the spa. We also recommend establishing lower temperatures and shorter periods of use for users who may be affected by hot water temperature.
- To avoid hyperthermia (heat stress) occurring the temperature of spa-pool water should not exceed 38°.
- Do not use the spa immediately following strenuous exercise.
- You must use a Licenced Electrical Contractor to connect the spa to power.
- The power must be supplied through a residual current device (RCD) to Australian Standards.
- If your power supply cable is damaged switch the spa off at the residual current device inside your houses meter box, contact a Licenced Electrical Contractor to replace the cable.
- Live parts and connections must be inaccessible to any person in the spa.
- Earthed appliances must be permanently connected to fixed wiring.
- Do not permit or use electric appliances (such as lighting, telephone, radios, televisions etc.) within 2 meters of the spa.
- Test the GFCI (Ground Fault Circuit Interrupter) or residual current device (RCD) monthly.
- If water is leaking from the spa stop using the spa and turn it off at the residual current device (RCD) in the meter box until a qualified technician has resolved the problem.
- In daylight hours do not leave the spa empty or partially empty of water for any period of time, this can cause terminal damage to the spa fibreglass shell & acrylic layer.
- Post emergency phone numbers for Police, Fire Department and Ambulance at the nearest phone.
- Install a CPR Resuscitation chart within easy view of the spa.
- Check with your local council to see if you require a building & fencing permit for your spa.

HYPERTHERMIA

Since your spa can be set to reach temperatures of 40°C (104°F) users should be aware that extended submersion in water that exceeds normal body temperature can lead to hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches several degrees above the normal body temperature of 37°C (98.6°F). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include:

- Unawareness of impending hazard.
- Failure to perceive heat.
- Failure to recognize the need to exit the spa.
- Physical inability to exit the spa.
- Foetal damage in pregnant woman.
- Unconsciousness resulting in the danger of drowning.

If you feel any of the symptoms of hyperthermia safely exit the spa immediately. Please note that the use of Alcohol, Drugs or Medication can significantly increase the risk of Hyperthermia.

CONSIDERATIONS REQUIRED FOR THE LOCATION OF YOUR SPA

Contact your local council to determine if a building permit is necessary and for information on applicable bylaws (distance from property lines, buildings, fencing requirements etc.). If you are doing any excavating contact Dial before You Dig on 1100 to ensure that there are no underground lines.

Locate the spa where possible within close distance of a door to the house, this will maximize potential winter use. If possible, locate the spa where you will enjoy some privacy. Make sure your spa is positioned so that access to all cabinet panels will not be blocked. Blocking access to any cabinet panel on the spa will render the spa unserviceable, you must have 900mm of clear uninterrupted space on all sides of the spa for a service technician to have space to make repairs. Service technicians will not move your spa to gain access to a cabinet panel which has been blocked in. Decking in your spa is not recommended you may render your spa unserviceable if the entire deck is not easily removable. Our technicians will not remove your deck to service your spa.

SPA FOUNDATION

Your spa needs a good solid foundation supporting the whole base of the spa. The foundation on which your spa sits must be able to support the weight of the spa the water in it and the weight of its users. If the foundation is inadequate the spa may shift, this will cause stress to the spa shell which may lead to the shell cracking. Damage caused by an inadequate or improper foundation is not covered under this warranty. It is the responsibility of the spa owner to provide a proper foundation for the spa. A spa containing both water and people is extremely heavy, if you are installing the spa onto decking or any other elevated structure you must consult a structural engineer to ensure that the structure will support the weight of the spa. Ideally the spa should be installed onto a concrete base at least 4" thick with reinforcing steel inside the concrete. If you are installing your spa indoors ensure that your choice of flooring is impermeable to water. Ensure that water drains away from the spa protecting the cabinet and electrical components from water damage. Do not place any item underneath the spas base to level the spa this will cause stress to the spa shell which may lead to the shell cracking. Damage caused by packing under the spas fibreglass base is not covered under this warranty.

WATER SUPPLY

Spas do not require a permanent water supply however there must be a water supply and hose within reach to fill the spa.

ELECTRICAL SAFETY

Do not place your spa within 3 metres of electrical appliances or power lines.

In case of an emergency, there must be an accessible power shut off point sited more than 2 meters away from the spa but no more than 3 meters away from the spa.

ELECTRICAL INSTALLATION

You will need a suitable electrical supply to run the spa.

The Stradbroke Luxury Spa requires a hardwired 32Amp Residual Current Device Protected Dedicated Power Connection. Your Licensed Electrical Contractor can hardwire the spa straight to the meter box in your house or they can install a hardwired 32Amp residual current device protected dedicated isolation switch. Page 6 in this manual listed as "As Manufactured" will show your electrician the wiring required.

ELECTRICIANS PLEASE NOTE: DO NOT CHANGE the DIP switches.

Please seal the nylon gland to the Balboa box with silicon to prevent pest entry.

ALL ELECTRICAL CONNECTIONS REQUIRE YOUR LICENCED ELECTRICAL CONTRACTOR TO INSTALL THE APPROPRIATE SIZED RCD IN THE HOUSES METER BOX.

ALL ELECTRICAL CONNECTIONS REQUIRE YOUR LICENSED ELECTRICAL CONTRACTOR TO INSTALL THE APPROPRIATE SIZED RCD IN THE HOUSES METER BOX.

It is the responsibility of your Licensed Electrical Contractor to ensure the Residual Current Device is installed at the correct mA required by the law.

When appointing an electrician to prepare your spas electrics check that they are suitably qualified and licensed to do so. Do not attempt to install the spas electrics yourself if you are not a fully Licensed Electrical Contractor. The spa must be wired on its own fused circuit back to your household meter box. The spa should not be sharing power supply with any other appliances.



Rotary Isolation Switch



Electrical Connection Point



Your Licensed Electrical Contractor will locate the electrical connection point here, remove the cabinet panel directly underneath the spas touch pad.

CABINET DOOR REMOVAL

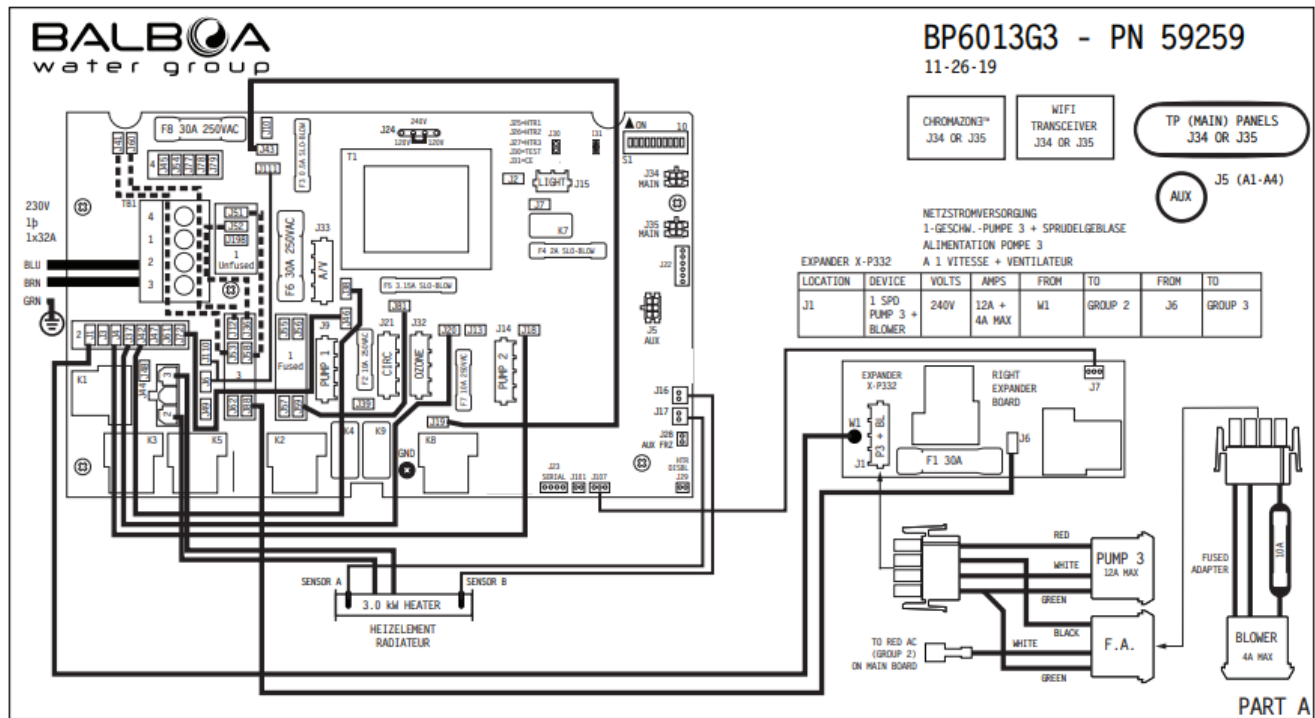
Start by removing the two cover strips, place your finger underneath the bottom of the cover strip and pull it towards yourself with a small amount of force until the cover strip pops out at the bottom. Do not continue to pull the cover strip from the bottom as this can lead to the cover strip snapping. Instead work your fingers up the cover strip until it completely pops off. Once you have the cover strip off you will see a small half circle steel plate at the bottom of the cabinet door with one screw installed, remove the screw. Now place your hand under the middle of the cabinet door and pull the door toward yourself and at the same time lower it to the ground. To reinstall the door reverse this process. When reinstalling the cover strips you may need to use force to push them back into location.

Once the spa has power connected and is completely filled with water your electrician can turn the power on. Never turn the spa on if you do not have it completely filled with water. While your electrician is still on site press the jt 1 button you should now have water movement within one section of the spa. If you have no water movement at this stage have your electrician, contact the store while they are still on site.

Wiring Diagram Single Phase

Hardware Setup

Wiring Diagram for normal heater versions



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2014 Balboa Water Group.

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Hardware Setup

Settings for normal heater versions

SINGLE SERVICE 230V 1p / 1x32A, THREE-SERVICE 230V 3p / 3x16A

LOCATION	DEVICE	MAX AMPS
J9	NETZSTROMVERSORGUNG 2/1-GECHW.-PUMPE 1 ALIMENTATION POMPE 1 A 2/1 VITESSES 2/1-SPD PUMP 1	12A
J14	1-SPD PUMP 2 NETZSTROMVERSORGUNG 1-GECHW.-PUMPE 2 ALIMENTATION POMPE 2 A 1 VITESSE	12A
J15	10V BELEUCHTUNG ECLAIRAGE BAIN HYDRO SPA LIGHT	2A* (Ø10V)
J21	KREISLAUF PUMPE POMPE DE CIRCULATION CIRC PUMP	2A
J32	OZONGENERATOR GENERATOROZONE OZONE GENERATOR	0.5A
J33	TV / AV	2A
J44	HEATER	3.0kW

* 2A LIMIT IS SHARED BY J15 SPA LIGHT AND CHROMAZONE™

SETUP #	CIRC PUMP	PUMP 1	PUMP 2	PUMP 3	BLOWER	TEMP SCALE
1	FILTERS + POLLING	2-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
2	FILTERS + POLLING	2-SPEED	1-SPEED	1-SPEED	NONE	°C
3	FILTERS + POLLING	2-SPEED	1-SPEED	NONE	1-SPEED	°C
4	FILTERS + POLLING	1-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
5	FILTERS + POLLING	1-SPEED	1-SPEED	1-SPEED	NONE	°C
6	FILTERS + POLLING	1-SPEED	1-SPEED	NONE	1-SPEED	°C
7	NONE	2-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
8	NONE	2-SPEED	1-SPEED	1-SPEED	NONE	°C
9	NONE	2-SPEED	1-SPEED	1-SPEED	1-SPEED	°C

INSTEAD OF
SETUP #1,
THIS SYSTEM IS
CONFIGURED IN
SETUP #:

FOR SUPPLY CONNECTIONS,
USE CONDUCTORS SIZED ON THE
BASIS OF 60°C AMPACITY BUT
RATED MINIMUM OF 90°C.

USE COPPER CONDUCTORS ONLY.
EMPLOYER UNIQUEMENT
DES CONDUCTEURS DE CUIVRE.

TORQUE RANGE FOR
MAIN TERMINAL BLOCK (TBI):
27-30 IN. LBS.
(31.1-34.5 kg cm)

BALBOA
water group

BP6013G3 - PN 59259
11-26-19

PART B

SWITCHBANK S1 OFF

TEST MODE OFF	◀ A1
DON'T ADD 1 HS. PUMP W/HTR	A2 ▶
DON'T ADD 2 HS. PUMPS W/HTR	▶ A3
DON'T ADD 4 HS. PUMPS W/HTR	▶ A4
SPECIAL AMPERAGE RULE A	▶ A5
STORE SETTINGS*	▶ A6
1 MIN HTR COOLDOWN (ELEC)	▶ A7
NOT ASSIGNED	▶ A8
NOT ASSIGNED	▶ A9
NOT ASSIGNED	▶ A10

*SWITCH # 6 SHOULD BE SET TO OFF UPON FINAL INSTALLATION.

SWITCHBANK S1 ON

TEST MODE ON	▶ A1
ADD 1 HS. PUMP WITH HEAT	▶ A2
ADD 2 HS. PUMPS WITH HEAT	▶ A3
ADD 4 HS. PUMPS WITH HEAT	▶ A4
SPECIAL AMPERAGE RULE B	▶ A5
MEMORY RESET*	▶ A6
5 MIN HTR COOLDOWN (GAS)	▶ A7
NOT ASSIGNED	▶ A8
NOT ASSIGNED	▶ A9
NOT ASSIGNED	▶ A10

230V 3p 3x16A

OFF ON

A2 A3 A4 A5

TBI

3 BRN 1 BRN BLU 2 BRN GRN

4 1 2 3

REMOVE JUMPER WIRES
J51-J58
J52-J36

IMPORTANT USAGE WARNINGS – NON WARRANTY FAULTS

Spas are extremely delicate products and require regular maintenance. Below we will list a number of common causes of problems which are not covered under this warranty. Should we ever need to visit you to repair your spa you will be charged the full cost of a repair if we found that the cause was the result of poor maintenance or customer negligence. Paying full attention to the issues below will help to reduce the risk of damage to your spa.

WATER TREATMENT

The most crucial aspects of spa maintenance is water treatment. Improper water balance will cause damage to the spas fibreglass shell, acrylic shell, pumps, jets, heater, headrests, vinyl cover and fittings. If we find improper water balance in your spa, these parts will not be covered under this warranty.

Please note that your spas headrests and filter box face are sensitive to chemical exposure, they will discolour and turn white. If you over sanitize the water or allow them to float in the water, this can happen immediately. Discoloured headrests and filter box faces will not be covered under this warranty. Do not clean the spas headrests or filter box face with the spas water only use fresh tap water to clean the headrests and filter box faces.

We recommend that you have the spa water tested weekly at a professional pool or spa store to gain accurate results of the water chemistry. When you test at other pool or spas stores, you can use the test results they give you to calculate any adjustments you need to make using our how to balance the water instructions. You do need to be careful to not just apply the amounts of chemical that they tell you to apply. The reason for this is that they might set the parameters differently to what your spa requires.

Water chemistry test history from a professional pool or spa store showing results for Free chlorine, Total chlorine, pH, Alkalinity, Calcium hardness, Cyanuric acid & Salt must be kept as a dated once-a-month digital reference as part of your warranty terms. This test history will be required in the event of a warranty claim. Your warranty will be made void if you cannot show these results, or these results show you have used chemicals with ingredients we have asked you not to use or the results show you have not maintained the water to the required readings we have provided you with.

CHEMICALS WITH ANY OF THESE INGREDIANTS CANNOT BE USED IN YOUR SPA.

Bromine, Granular chlorine calcium, Trichlor chlorine, Dichlor chlorine, Stabilised chlorine, Cyanuric acid, Liquid pool chlorine, Hydrochloric acid, Magnesium, Epsom salt, Hydrogen peroxide chlorine free, Phlihexanide hydrochloride chlorine free, Polyhexamethylene biguanide chlorine free.

THESE CHEMICALS ARE ALL KNOWN TO CAUSE SOME FORM OF DAMAGE TO FIBREGLASS - ACRYLIC SPAS.

SOME OF THESE CHEMICALS WILL BREAK DOWN THE BONDS OF THE FIBREGLASS – ACRYLIC SHELL WHICH ALLOWS THE FIBREGLASS – ACRYLIC SHELL TO BE RE SHAPPED. THE WEIGHT OF THE WATER WILL PUSH DOWN ON THE FIBREGLASS – ACRYLIC SHELL AND RESHAPE IT OVER THE STAINLESS-STEEL STRUCTURAL FRAME CAUSING THE STRUCTURAL FRAME TO BECOME VISABLE THROUGH THE SHELL. SOME OF THESE CHEMICALS WILL BREAK DOWN THE ACRYLIC SHELL CAUSING CRAZZING, CRACKS, BUBBLES, WRINKLES & HOLES IN THE ACRYLIC SHELL. THESE ISSUES ARE IRREVERSABLE.

Your warranty will be made void if you use any of these chemicals, even if you only used it once.

If your monthly water test results show any amount of these chemicals in your water, please contact your store of purchase immediately for advice

HOW TO REMOVE YOUR SPAS FILTERS

Remove the flat head screw in the filter box face and dispose of it.
DO NOT REINSTALL THE SCREW.

1. Slide the face plate on the filter box vertically upwards until it separates away from the filter box.
2. Remove the leaf catcher by sliding it horizontally towards the centre of the spa.
3. To remove the filters, turn the handle on the top of each filter anti-clockwise until you can lift each filter out of the filter box.
4. To install the filters, place the filters inside the filter box and turn the handles on the top of the filters clockwise. Do not turn the filters with force just gently screw them in. Tightening the filters too firmly can break the thread on the filters and can cause the filters to get permanently stuck inside the filter box.
5. To install the leaf tray slide it horizontally into the filter box, make sure the tray sits in the middle of the locating grooves. The filter face plate will not install if you have the leaf tray outside of the locating grooves.
6. To install the face plate on the filter box slide the face plate vertically downwards.
Note: The black filter box face is sensitive to chemical exposure, it will eventually discolour and turn white. If you over sanitize the water this can happen immediately.



WEEKLY FILTERS CLEANING

Once a week remove the filters from the spa and wash thoroughly with a garden hose, then place the filters in a bucket of cold water and add 125ml of Filter Cleaner & Degreaser #9 or Filter Cleaner & Degreaser 1Litre Bottle. Agitate the water and leave the filters submerged to soak for 24 hours. After 24 hours remove the filters, wash them thoroughly and allow them to completely dry out in an area exposed to the sun or wind.

It is recommended to purchase spare filters and alternate between the filters each week to make the cleaning process easier. Filters which are not cleaned weekly can cause your spa to stop cleaning & heating.

Your filter needs to be replaced every twelve months, however if you are rotating between two sets of filters this will require replacement every two years.

To order your replacement filter <https://www.aquapulsespas.com.au/products/universal-cartridge-filter-2>



FILLING YOUR SPA WITH WATER – AVOIDING AIR LOCKS

Fill your spa with water making sure that the water is higher than the highest jets in the spa (excluding shoulder jets), never let the water level fall below the highest jets this will cause the spa to drain itself empty. Do not fill the water higher than the head rests in the spa, this will cause water to enter inside the spas cabinet which can cause damage to the spa.

The correct way to fill your spa with water is to remove the spas filter and place your hose inside the filter box. Be sure to remove the fitting off the hose to prevent it from falling into the spas plumbing.

Placing the hose inside the spas main seating area may cause a build-up of air inside the plumbing creating an air lock. Air locks can stop the pumps and heater from working. To help avoid this problem ensure you fill up the spa through the filter box. You can tell if you have an air lock by turning on the pumps, if no water appears to circulate through the system, it is very likely that you have an air lock. To resolve this problem, turn the pump off and loosen the unions at the side of the suction end of the pump until water begins to flow through, then re tighten the union and try turning the pump on again.

Alternatively contact the store of purchase for advice on other ways to remove an air lock.

Note:

Please ensure the drain fitting is closed before filling the spa with water, see instructions on page 11.

VINYL COVER INSTALLATION

Locate the screws and keys, which are packaged inside the vinyl cover.

Place the vinyl cover on top of the spa. Your vinyl cover may not be square, you may need to rotate it to fit the spa.

On each strap of the vinyl cover there is a black plastic lock. Press the two prongs on each lock together and gently pull downwards to remove the section of the lock which you will need to screw onto the spas cabinet. With the section of the lock you have in your hand place it behind the prongs which are attached to the vinyl cover strap lined up so that the bottom of each part is flush. Now raise the section of the lock you have in your hand towards the top of the spa by 2cm and mark the position of the two holes on each lock onto the spas cabinet. Using the screws supplied screw each lock onto the spas cabinet. Do not pre-drill holes the screws will self-tap in, if using a drill stop before the screw is completely tight and finish tightening the screw by hand, if you over tighten the lock you will crack the plastic.

VINYL COVER USE & CARE

To lift the vinyl cover, place your hand underneath the valance and lift the vinyl cover itself. The handles & valance on the vinyl cover are not for lifting or pulling the vinyl cover, lifting or pulling on the handles or valance will tear the vinyl handles & stitching. Never stand, sit, or apply any weight to the vinyl cover this will bend or break the vinyl cover. Do not open the zippers on your vinyl cover they can be extremely difficult to close and may not close at all. To clean your vinyl cover wipe both the top vinyl and underside over with a damp fresh tap water cloth. Do not use the spas water to wipe the vinyl cover this will leave chemical stains on the vinyl. To extend the life expectancy of your vinyl cover apply 303 aerospace protectant to the vinyl side of your vinyl cover every 30 days and balance your spas water weekly as per the chemical instructions we have supplied you with. Poorly balanced water can blister your vinyl cover, breakdown the stitching & leave algae stains on the cover. Blistering on the underside of your cover is caused by sanitizer fumes, if you are noticing this you need to lower the amount of sanitizer you are applying to the water. The Hardcover is not warranted against chemical damage.

Your vinyl cover must always be locked to the spas cabinet when the spa is not in use. Leaving the vinyl cover off exposes your spa to the elements which can cause permanent damage to the spas acrylic shell and fittings, it also allows leaves, dust etc. to enter your spa. Debris in the spa can cause blockages or damage to the equipment.

CABINET CARE

Do not use any chemicals to clean your cabinet. The best way to clean your cabinet is to regularly wipe it down with a micro fibre cloth and fresh tap water. Cabinet exposed to the sun will fade in colour and can also warp from being expose to the sun.

ACRYLIC SHELL CARE

Once a week use a chemical free micro fibre cloth and wipe down the acrylic spa shell in and above the water line. The acrylic shell will show scratches, crazing, cracks and chaffing marks, this is unavoidable and is not a manufacturing fault. This will be most prominent where the acrylic is not under water between the air void of the hardcover and water level in the spa, the acrylic areas on the inside and outside of the spa which are not under water are constantly exposed to chemical fumes which causes crazing and cracking. This is normal wear and tear for acrylic and can be seen very early in a spas life. Never use any chemicals on the list of chemicals we have noted which cannot be used in your spa and do not over dose the spa water with the recommended chemicals. Using incorrect chemicals or over dosing the spas water can cause crazing, cracks, bubbles, wrinkles & holes in the spas acrylic shell. Acrylic can not change its shape without the application of heat, for the acrylic shell to get bubbles, wrinkles or holes the acrylic must reach a temperature between 80 to 160 degrees to do so. The only way that this can occur is if you have your spa partially or completely empty of water in daylight hours or you have used chemicals on the list of chemicals we have told you not to use or you overdose the sanitizer or water chemistry balancers in the spas water which creates a chemical reaction causing excessive heat which allows the acrylic to change shape. You only need to overdose the sanitizer or water chemistry balancers once and you can cause this issue to occur. We will not cover bubbles, wrinkles or holes in the spas acrylic under warranty.

EMPTY SPA WARNING

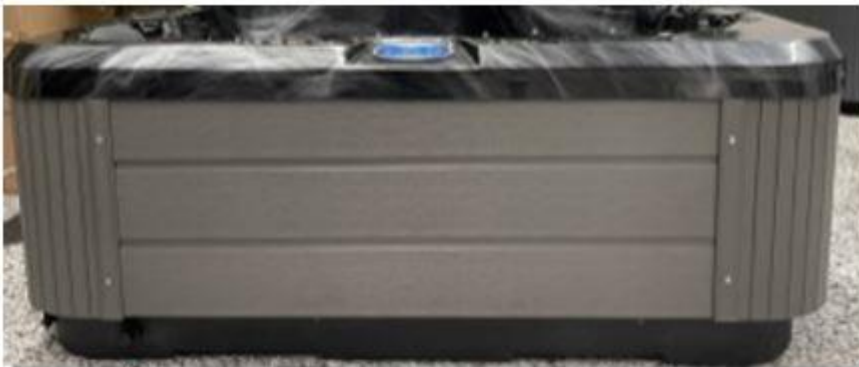
An empty or partially empty spa of water during daylight hours can cause deforming, changes to the shape of the shell, melting, crazing, cracking, discolouration, blisters or holes in the spa's fiberglass, acrylic and fittings, this can happen within minutes of the spa being emptied or partially empty. Your warranty does not cover deforming, changes to the shape of the shell, melting, crazing, cracking, discolouration, blisters or holes in the spa's acrylic and fittings, so it is especially important your vinyl cover is on the spa when not in use and the spa is completely filled with water at all times during daylight hours.

DRAINING THE SPA - USING THE DRAIN FITTING WARNING:

Never drain or partially drain your spa of water in daylight hours.

Always drain your spa at nighttime & fully refill your spa with water the same night.

An empty or partially empty spa of water during daylight hours can cause deforming, changes to the shape of the shell, melting, crazing, cracking, discoloration, blisters or holes in the spa's fiberglass, acrylic and fittings, this can happen within minutes of the spa being emptied or partially empty. Your warranty does not cover deforming, changes to the shape of the shell, melting, crazing, cracking, discoloration, blisters or holes in the spa's acrylic and fittings, so it is especially important your vinyl cover is on the spa when not in use and the spa is always completely filled with water at all times during daylight hours.



LOCATION OF DRAIN FITTING

To locate your drain fitting it will be found on the touchpad side of the spa in the left-hand corner of the black fibreglass base.

Remove the smaller black cap by turning it to the left until it removes, this will expose a thread which you can screw the supplied garden hose fitting onto by screwing the hose fitting to the right.

To open the drain turn the larger black round section of the drain to the left until it can turn no further. Now connect your garden hose to the hose fitting you previously screwed on and gently pull the garden hose away from the spa this will open the valve to allow the spa to drain. Once drained remove the garden hose and garden hose fitting. Push the larger black round section of the drain towards the base of the spa then turn the larger black round section of the drain to the right until it can turn no further. Reinstall the smaller black cap, screw it on by turning it to the right. Make sure the larger black round section of the drain is left turned as far to the right as possible, this will prevent it from opening and leaking water on refilling the spa.

OPENING & CLOSING WATER JETS

The larger water jets in your spa can be manually turned on or off.

Turning the stainless-steel jet face clockwise will turn the jet on which will allow the water to flow through the jet. Turning the stainless-steel jet face anticlockwise will turn the jet off slowing the water from flowing through the jet. The smaller stainless-steel jets in your spa can not be opened & closed, they will always remain open.

WATERFALL HANDLE

Your waterfall handle can be located on the spa image on page one.

To run your waterfalls, turn on a water pump and turn the waterfall handle to the left.

To turn the waterfalls off turn the waterfall handle to the right.

Make sure you do not allow the waterfalls to trickle water over the acrylic edge, please make sure when you close the waterfall the jets are not trickling water, this will allow water to go underneath the waterfall jet and inside the spas cabinet, we will not come to site under warranty to rectify this situation.

Do not apply force to the waterfall handle at the fully open or fully closed positions you will break it if you do, turn it softly.

The waterfall handle must be in the closed position when the spa has its vinyl cover on, failure to do so can cause the water to partially or entirely drain itself from the spa during its cleaning cycles.

AIR CONTROL HANDLES

The air control handles can be located on the spa image on page one.

These handles control the amount of air pressure the jets receive.

Turning the handle to the left will increase the water jets pressure.

Turning the handle to the right will decrease the water jets pressure.

WATER DIVERTER

The water diverter handle can be located on the spa image on page one.

This handle is used to move where the water is delivered within the spa.

When you turn the water diverter to different positions the water pressure will change and move location within the spa. When the pumps are running the water diverter will make loud noise from the water pressure flowing through the handle, the noise level will vary depending on where the handle is positioned. Do not turn this handle while the pumps are running and do not apply force to the handle at the fully open or fully closed positions you will break it if you do, to make adjustments turn the handle softly when the pumps are turned off.

MY SPA IS TOO HOT IN SUMMER, THE TEMPERATURE OF THE WATER IS HIGHER THAN I HAVE SET

During summer there may be times when the spas water exceeds the set temperature. This is not a fault in the spa it is simply the ambient air temperature causing this. To combat this problem, you can use ice to cool down the water.

FROST PREVENTION SYSTEM

If the temperature of the spas water drops below 5°C the spa will switch on the heater until the spa reaches the temperature of 8°C.

OZONATOR

The spas ozonator will automatically turns itself on when the spa is running filter cycles, there are no adjustments you are able to make. When the ozonator is running, the bubbles you see and the noise level you hear will vary. Sometimes you will see less bubbles and hear less noise, sometimes you will see more bubbles and hear more noise, this is normal operation and is not cause for concern.

TP600 and TP400 Control Panels

User Interface and Programming Reference – Standard Menus

System Model:	BP-Series Systems are BP5XX, BP6XX, BP1XXX, BP2XXX..	
Software Version:	7.0 and later	
Panel Model:	TP600 Series	TP400 Series
Software Version:	2.3 or later	2.4 or later



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Main Menus

Navigation

Navigating the entire menu structure is done with 2 or 3 buttons on the control panel.



Some panels have separate **WARM** (Up) and **COOL** (Down) buttons, while others have a single **Temperature** button. In the navigation diagrams Temperature buttons are indicated by a single button icon.

Panels that have two Temperature buttons (Warm and Cool) can use both of them to simplify navigation and programming where a single Temperature icon is shown.

The **LIGHT** Button is also used to choose the various menus and navigate each section.

Typical use of the Temperature button(s) allows changing the Set Temperature while the numbers are flashing in the LCD.

Pressing the **LIGHT** button while the numbers are flashing will enter the menus.

The menus can be exited with certain button presses. Simply waiting for a few seconds will return the panel operation to normal.

Power-up Screens

Each time the System powers up, a series of numbers is displayed.

After the startup sequence of numbers, the system will enter Priming Mode (See Page 3).

Key

Indicates Flashing or Changing Segment

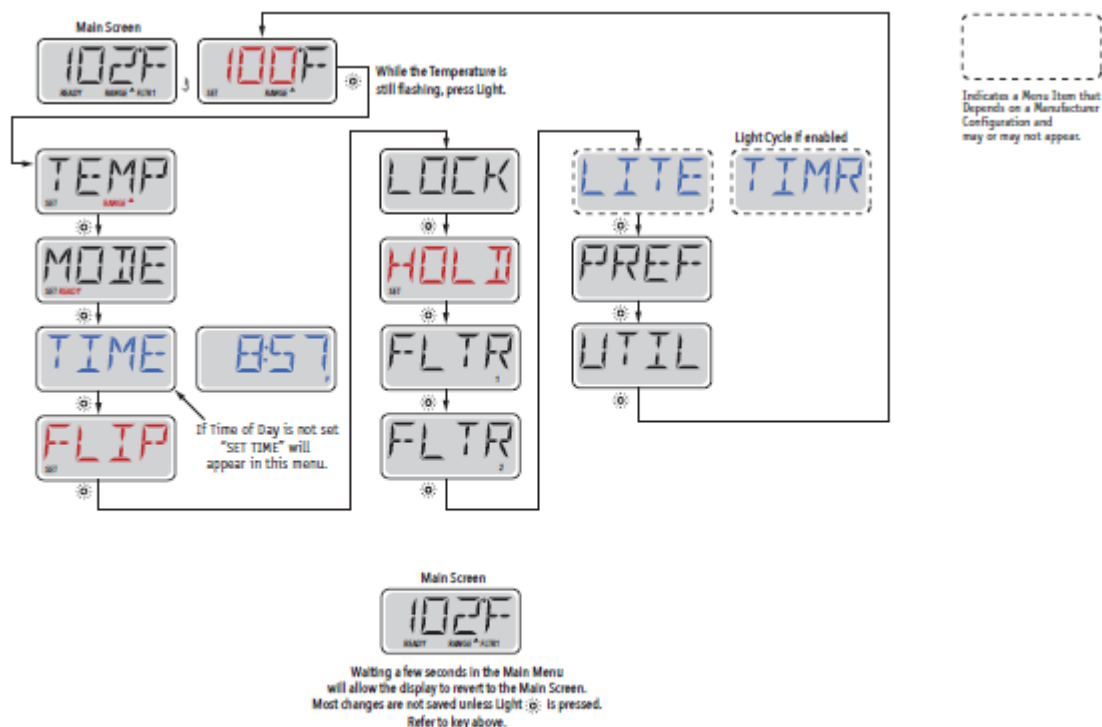
Indicates Alternating or Progressive Message - every 1/2 second

A temperature button, used for "Action"

Light or dedicated "Choose" button, depending on control panel configuration

Waiting time that keeps the last change to a menu item.

Waiting time (depends on menu item) that reverts to original setting and ignores any change to that menu item.



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 B2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Fill it up!

Preparation and Filling

Fill the spa to its correct operating level. Be sure to open all valves and jets in the plumbing system before filling to allow as much air as possible to escape from the plumbing and the control system during the filling process.

After turning the power on at the main power panel, the top-side panel display will go through specific sequences. These sequences are normal and display a variety of information regarding the configuration of the hot tub control.

Priming Mode – M019*

This mode will last for 4-5 minutes or you can manually exit the priming mode after the pump(s) have primed.



Regardless of whether the priming mode ends automatically or you manually exit the priming mode, the system will automatically return to normal heating and filtering at the end of the priming mode. During the priming mode, the heater is disabled to allow the priming process to be completed without the possibility of energizing the heater under low-flow or no-flow conditions. Nothing comes on automatically, but the pump(s) can be energized by pushing the "Jet" buttons. If the spa has a Circ Pump, it can be activated by pressing the "Light" button during Priming Mode.

Priming the Pumps

As soon as the above display appears on the panel, push the "Jet" button once to start Pump 1 in low-speed and then again to switch to high-speed. Also, push the Pump 2 or "Aux" button, if you have a 2nd pump, to turn it on. The pumps will now be running in high-speed to facilitate priming. If the pumps have not primed after 2 minutes, and water is not flowing from the jets in the spa, do not allow the pumps to continue to run. Turn off the pumps and repeat the process. Note: Turning the power off and back on again will initiate a new pump priming session. Sometimes momentarily turning the pump off and on will help it to prime. Do not do this more than 5 times. If the pump(s) will not prime, shut off the power to the spa and call for service.

Important: A pump should not be allowed to run without priming for more than 2 minutes. Under NO circumstances should a pump be allowed to run without priming beyond the end of the 4-5 minute priming mode. Doing so may cause damage to the pump and cause the system to energize the heater and go into an overheat condition.

Exiting Priming Mode

You can manually exit Priming Mode by pressing a "Temp" button (Up or Down). Note that if you do not manually exit the priming mode as described above, the priming mode will be automatically terminated after 4-5 minutes. Be sure that the pump(s) have been primed by this time.

Once the system has exited Priming Mode, the top-side panel will momentarily display the set temperature but the display will not show the temperature yet, as shown below. This is because the system requires approximately 1 minute of water



flowing through the heater to determine the water temperature and display it.

*M019 is a Message Code. See Page 18.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Spa Behavior

Pumps

Press the "Jets 1" button once to turn pump 1 on or off, and to shift between low- and high-speeds if equipped. If left running, the pump will turn off after a time-out period. The pump 1 low-speed will time out after 30 minutes. The high-speed will time out after 15 minutes.

On non-circ systems, the low-speed of pump 1 runs when the blower or any other pump is on. If the spa is in Ready Mode (See page 6), Pump 1 low may also activate for at least 1 minute every 30 minutes to detect the spa temperature (polling) and then to heat to the set temperature if needed. When the low-speed turns on automatically, it cannot be deactivated from the panel, however the high speed may be started.

Circulation Pump Modes

If the system is equipped with a circ pump, it will be configured to work in one of three different ways:

- 1, The circ pump operates continuously (24 hours) with the exception of turning off for 30 minutes at a time when the water temperature reaches 3°F (1.5°C) above the set temperature (most likely to happen in very hot climates).
- 2, The circ pump stays on continuously, regardless of water temperature.
- 3, A programmable circ pump will come on when the system is checking temperature (polling), during filter cycles, during freeze conditions, or when another pump is on.

The specific Circulation Mode that is used has been determined by the Manufacturer and cannot be changed in the field.

Filtration and Ozone

On non-circ systems, Pump 1 low and the ozone generator will run during filtration. On circ systems, the ozone will run with the circ pump.

The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower. The filter time and duration are programmable. (See page 10)

A second filter cycle can be enabled as needed.

At the start of each filter cycle, the blower (if there is one) or Pump 2 (if there is one) will run briefly to purge its plumbing to maintain good water quality.

Freeze Protection

If the temperature sensors within the heater detect a low enough temperature, then the pump(s) and the blower automatically activate to provide freeze protection. The pump(s) and blower will run either continuously or periodically depending on conditions.

In colder climates, an optional additional freeze sensor may be added to protect against freeze conditions that may not be sensed by the standard sensors. Auxiliary freeze sensor protection acts similarly except with the temperature thresholds determined by the switch. See your dealer for details.

Clean-up Cycle (optional)

When a pump or blower is turned on by a button press, a clean-up cycle begins 30 minutes after the pump or blower is turned off or times out. The pump and the ozone generator will run for 30 minutes or more, depending on the system. On some systems, you can change this setting. (See the Preferences section on page 12)

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Temperature and Temp Range

Adjusting the Set Temperature

When using a panel with Up and Down buttons (Temperature buttons), pressing Up or Down will cause the temperature to flash. Pressing a temperature button again will adjust the set temperature in the direction indicated on the button. When the LCD stops flashing, the spa will heat to the new set temperature when required.

If the panel has a single temperature button, pressing the button will cause the temperature to flash. Pressing the button again will cause the temperature to change in one direction (e.g. UP). After allowing the display to stop flashing, pressing the Temperature Button will cause the temperature to flash and the next press will change the temperature in the opposite direction (e.g. DOWN).

Press-and-Hold

If a Temperature button is pressed and held when the temperature is flashing, the temperature will continue to change until the button is released. If only one temperature button is available and the limit of the Temperature Range is reached when the button is being held, the progression will reverse direction.

Dual Temperature Ranges

This system incorporates two temperature range settings with independent set temperatures. The High Range designated in the display by an "up" arrow, and the Low Range designated in the display by a "down" arrow.

These ranges can be used for various reasons, with a common use being a "ready to use" setting vs. a "vacation" setting. The Ranges are chosen using the menu structure below. Each range maintains its own set temperature as programmed by the user. This way, when a range is chosen, the spa will heat to the set temperature associated with that range.

For example:

High Range might be set between 80°F and 104°F.

Low Range might be set between 50°F and 99°F.

More specific Temp Ranges may be determined by the Manufacturer.

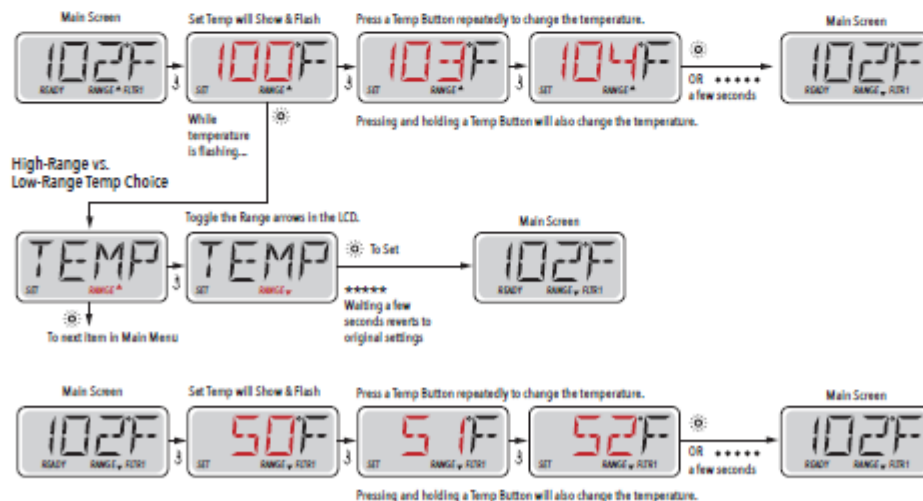
Freeze Protection is active in either range.

See Ready and Rest on Page 6

for additional heating control information.

Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message - every 1/2 second
- ⏏ A temperature button, used for "Action"
- ⊗ Light or dedicated "Choose" button, depending on control panel configuration
- Waiting time that keeps the last change to a menu item.
- ***** Waiting time (depends on menu item) that reverts to original setting and ignores any change to that menu item.



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Mode – Ready and Rest

In order for the spa to heat, a pump needs to circulate water through the heater. The pump that performs this function is known as the "heater pump."

The heater pump can be either a 2-Speed Pump 1 or a circulation pump.

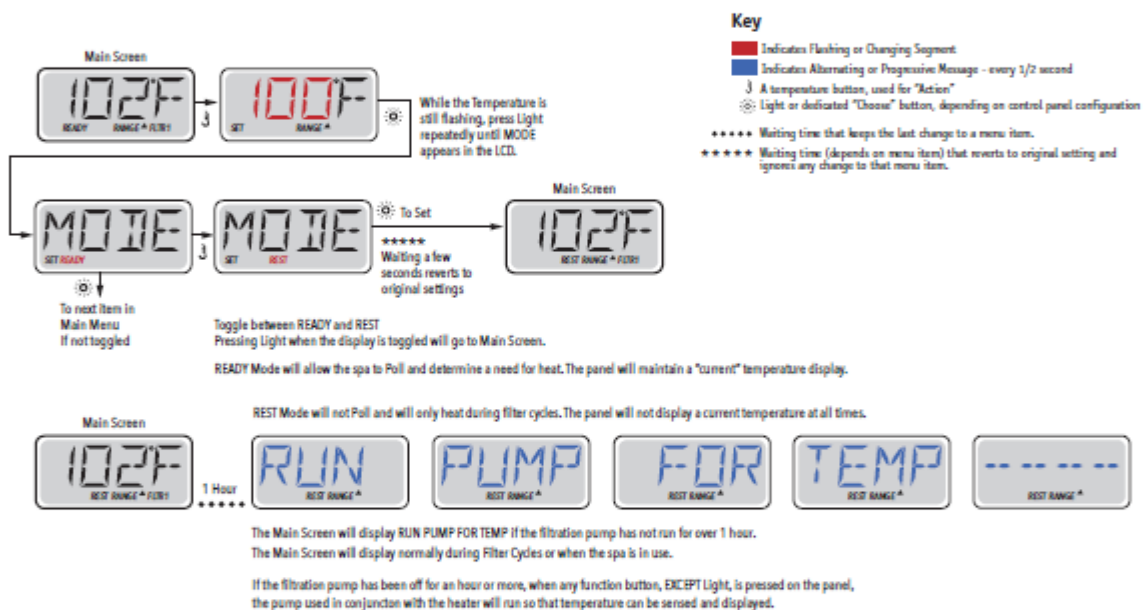
If the heater pump is a 2-Speed Pump 1, READY Mode will circulate water periodically, using Pump 1 Low, in order to maintain a constant water temperature, heat as needed, and refresh the temperature display. This is known as "polling."

REST Mode will only allow heating during programmed filter cycles. Since polling does not occur, the temperature display may not show a current temperature until the heater pump has been running for a minute or two.

Circulation Mode (See Page 4, under Pumps, for other circulation modes)

If the spa is configured for 24HR circulation, the heater pump generally runs continuously. Since the heater pump is always running, the spa will maintain set temperature and heat as needed in Ready Mode, without polling.

In Rest Mode, the spa will only heat to set temperature during programmed filter times, even though the water is being filtered constantly when in Circulation Mode.



Ready-in-Rest Mode

READY/REST appears in the display if the spa is in Rest Mode and Jet 1 is pressed. It is assumed that the spa is being used and will heat to set temperature. While Pump 1 High can be turned on and off, Pump 1 Low will run until set temperature is reached, or 1 hour has passed. After 1 hour, the System will revert to Rest Mode. This mode can also be reset by entering the Mode Menu and changing the Mode.



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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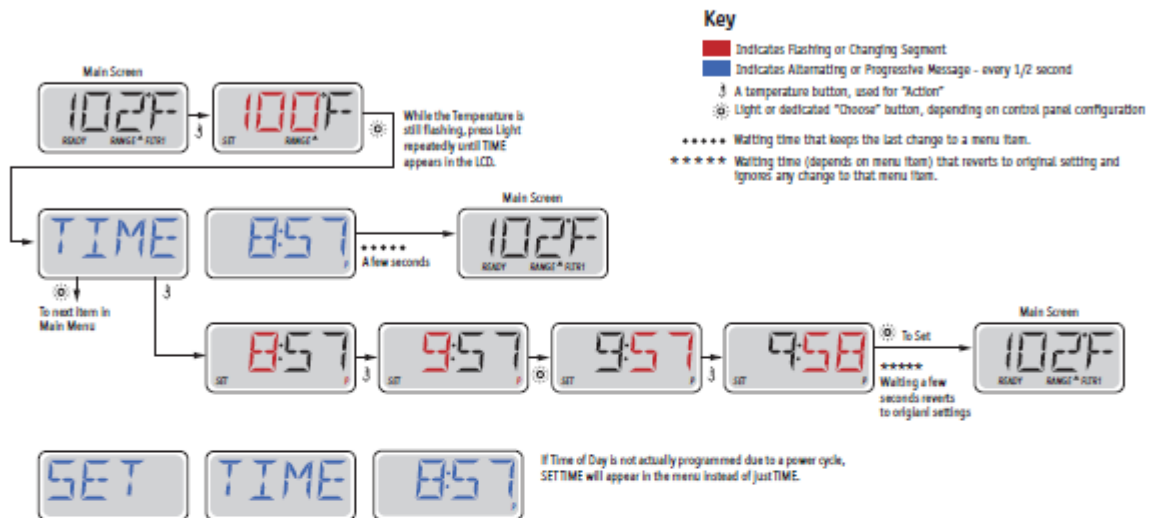
Show and Set Time-of-Day

Be sure to set the Time-of-Day

Setting the time-of-day can be important for determining filtration times and other background features.

When in the TIME menu, SET TIME will flash on the display if no time-of-day is set in the memory.

24-hour time display can be set under the PREF menu. (See Page 12)

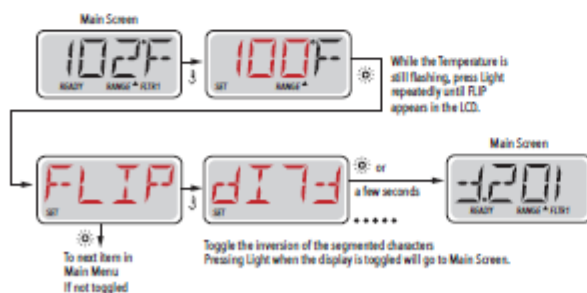


Note:

If power is interrupted to the system, Time-of-Day is not stored. The system will still operate and all other user settings will be stored. If filter cycles are required to run at a particular time of day, resetting the clock will return the filter times to the actual programmed periods.

When the system starts up, it defaults to 12:00 Noon, so another way to get filter times back to normal is to start up the spa at noon on any given day. SET TIME will still flash in the TIME Menu until the time is actually set, but since the spa started at noon, the filter cycles will run as programmed.

Flip (Invert Display)



Note:

Some panels may have a dedicated FLIP button, which allows the user to flip the display with a single button-press.

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Restricting Operation

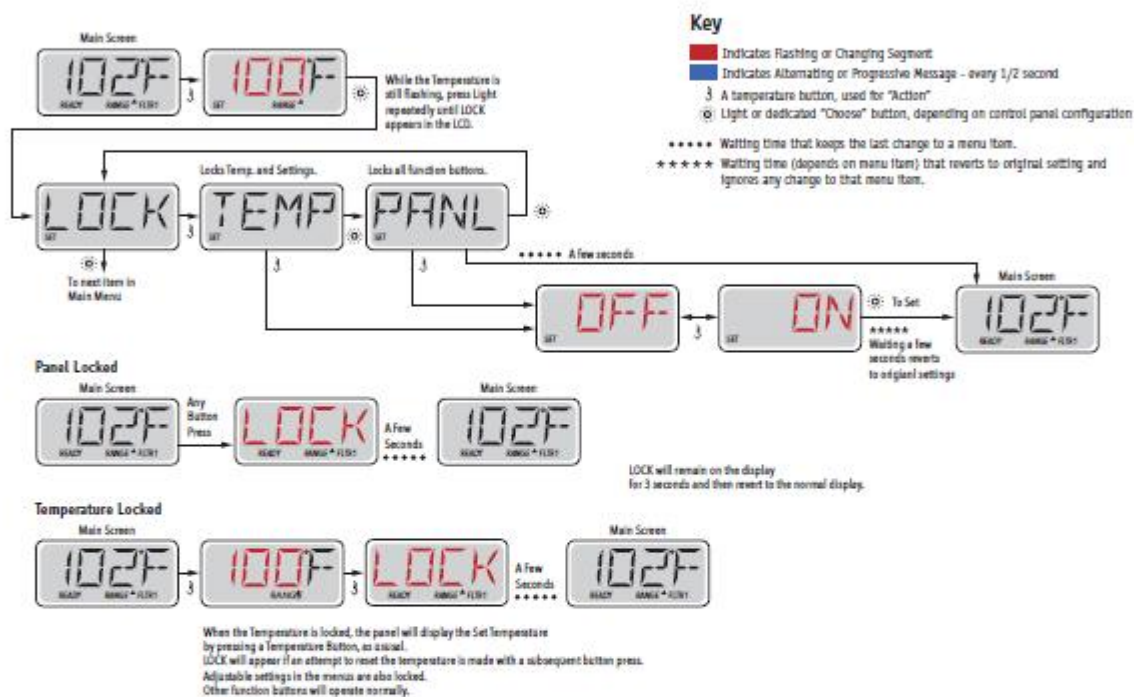
The control can be restricted to prevent unwanted use or temperature adjustments.

Locking the panel prevents the controller from being used, but all automatic functions are still active.

Locking the Temperature allows Jets and other features to be used, but the Set Temperature and other programmed settings cannot be adjusted.

Temperature Lock allows access to a reduced selection of menu items.

These include Set Temperature, FLIP, LOCK, UTIL, INFO and FALT LOG.



Unlocking

This Unlock sequence may be used from any screen that may be displayed on a restricted panel.



NOTE: If the panel has both an UP and a Down button, the ONLY button that will work in the Unlock Sequence is the UP button.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5550720, 5,883,450, 6253227, 6282370, 6590188, 6076052, 6965815, 7030343, 7,417,834 02, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Hold (Standby)

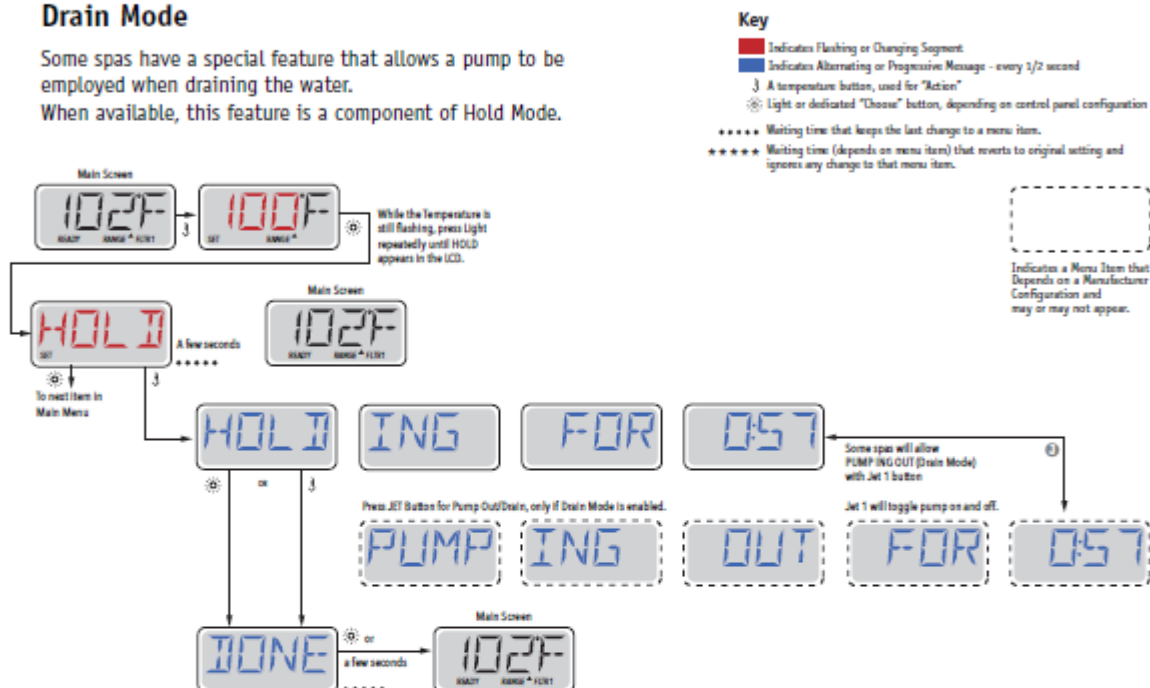
Hold Mode – M037*

Hold Mode is used to disable the pumps during service functions like cleaning or replacing the filter. Hold Mode will last for 1 hour unless the mode is exited manually.

Drain Mode

Some spas have a special feature that allows a pump to be employed when draining the water.

When available, this feature is a component of Hold Mode.



M037 is a Message Code. See Page 18.

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Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Light Timer Programming

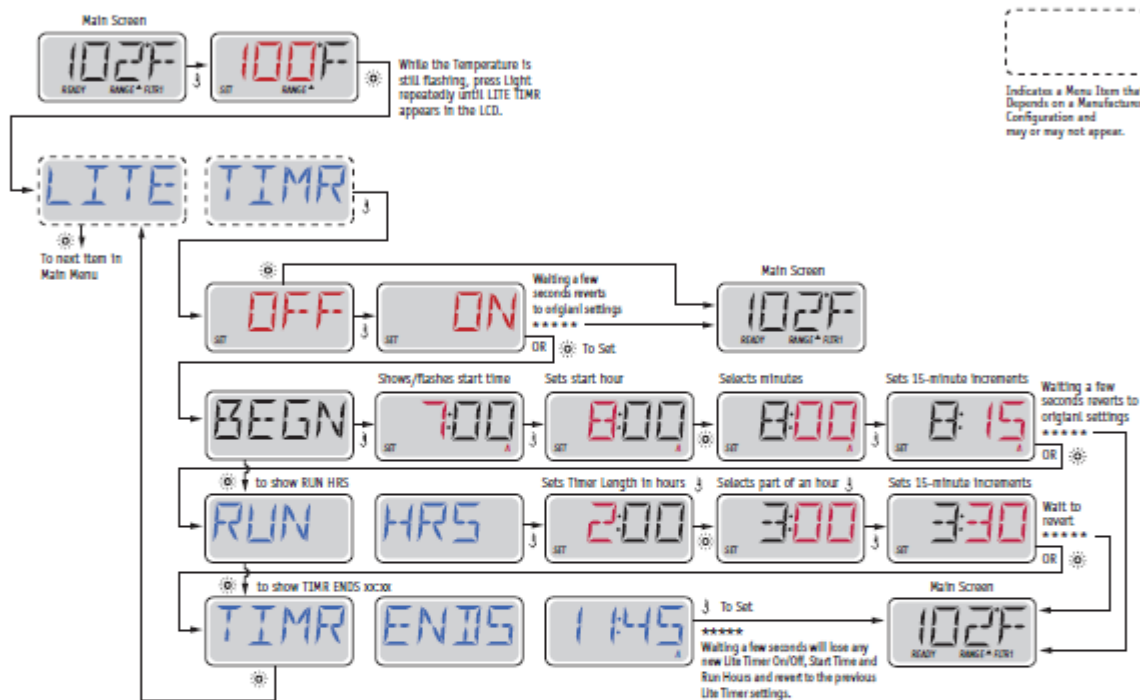
Light Timer Option

If LITE TIMR does not appear in the Main Menu, the Light Timer feature is not enabled by the manufacturer.

When available, the Light Timer is OFF by default.

Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message - every 1/2 second
- A temperature button, used for "Action"
- Light or dedicated "Choose" button, depending on control panel configuration
- ***** Waiting time that keeps the last change to a menu item.
- ***** Waiting time (depends on menu item) that reverts to original setting and ignores any change to that menu item.



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5550720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Preferences

F / C (Temp Display)

Change the temperature between Fahrenheit and Celsius.

12 / 24 (Time Display)

Change the clock between 12 hr and 24 hr display.

RE-MIN-DERS (Reminders)

Turn the reminder messages (like "Clean Filter") On or Off.

CLN-UP (Cleanup)

Cleanup Cycle Duration is not always enabled, so it may not appear. When it is available, set the length of time Pump 1 will run after each use. 0-4 hours are available.

DOL-PHIN AD-DRES (Dolphin II and Dolphin III) Applies to RF Dolphin only.

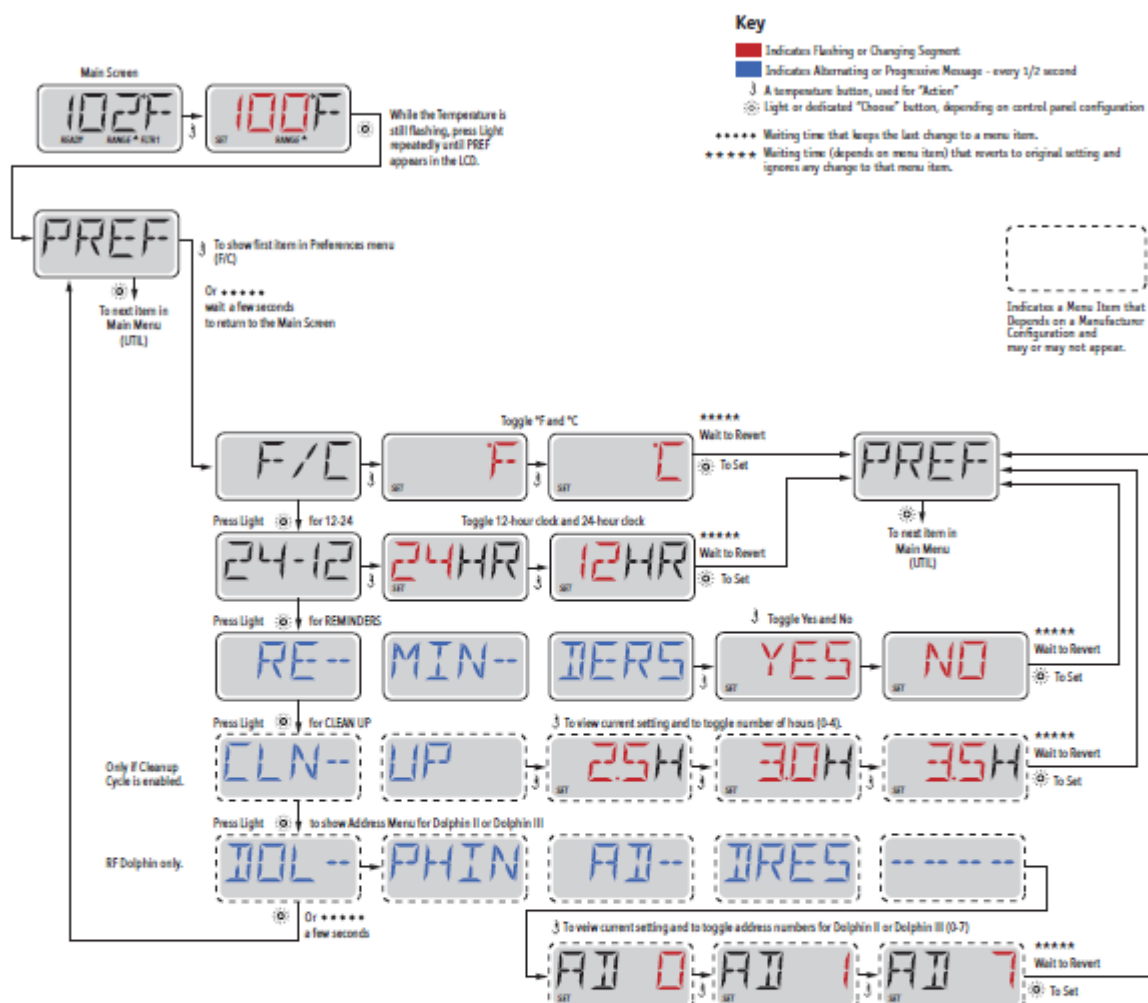
(This message may not appear depending on the configuration)

When set to 0, no addressing is used. Use this setting for a Dolphin Remote which is factory set for no address by default. When set between 1 and 7, the number is the address. (See the Dolphin manual for details.)

Manufactured under one or more of these patents. U.S. Patents: 5,332,944, 5,361,215, 5,550,753, 5,550,720, 5,883,450, 6,253,227, 6,282,370, 6,590,188, 6,076,052, 6,965,815, 7,030,343, 7,417,834 b2, Canadian Patent: 2,342,614, Australian patent: 2,373,248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Preferences



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Utilities and Information

INFO (System Information sub-menu)

The System Information Menu displays various settings and identification of the particular system. As each item in the menu is highlighted, the detail for that item is displayed at the bottom of the screen.

SSID (Software ID)

Displays the software ID number for the System.

MODL (System Model)

Displays the Model Number of the System.

SETP (Current Setup)

Displays the currently selected Configuration Setup Number.

Heater Voltage (Feature not used on CE rated systems.)

Displays the operating voltage configured for the heater.

Heater Wattage as Configured in Software (CE Systems Only.)

Displays a heater kilowatt rating as programmed into the control system software (1-3 or 3-6).

H _ (Heater Type)

Displays a heater type ID number.

SW _ (Dip Switch Settings)

Displays a number that represents the DIP switch positions of S1 on the main circuit board.

PANL (Panel Version)

Displays a number of the software in the topside control panel.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5550720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Additional Utilities

Utilities

In addition to INFO, The Utilities Menu contains the following:

GFCI (GFCI Test)

(Feature not available on CE rated systems.)

GFCI Test is not always enabled, so it may not appear. This screen allows the GFCI to be tested manually from the panel and can be used to reset the automatic test feature. If the GFCI Test Feature is reset, the device will trip within 7 days. (See Page 17)

A / B (A/B Sensor Temperatures)

When this is set to On, the temperature display will alternate to display temperature from Sensor A and Sensor B in the heater.

FALT LOG (Fault Log)

The Fault Log is a record of the last 24 faults that can be reviewed by a service tech.

DEMO (Demo Mode)

Demo Mode is not always enabled, so it may not appear. This is designed to operate several devices in a sequence in order to demonstrate the various features of a particular hot tub.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5550720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030943, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

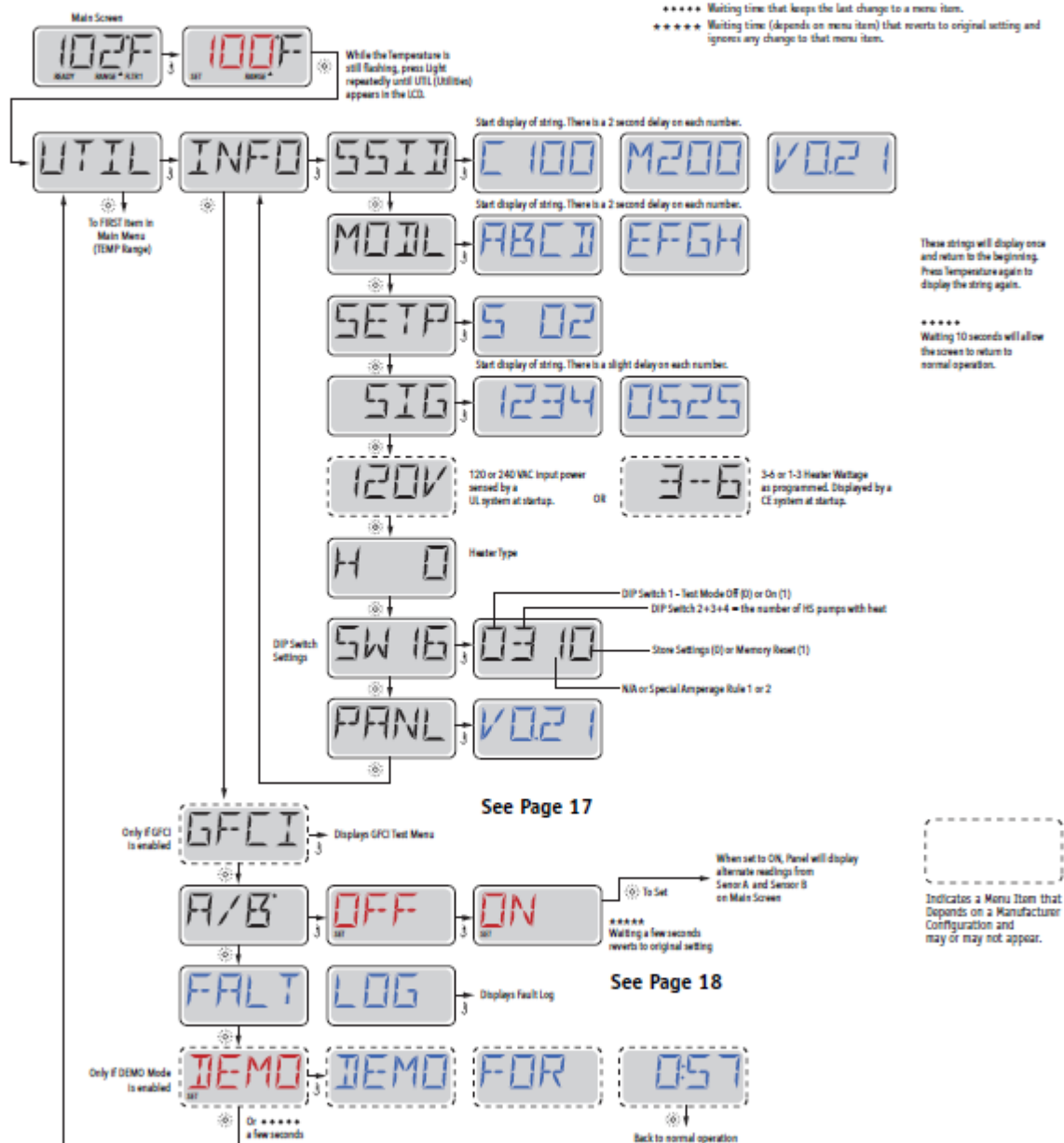
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Utilities

Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message - every 1/2 second
- 3 A temperature button, used for "Action"
- ⊗ Light or dedicated "Choose" button, depending on control panel configuration

- ***** Waiting time that keeps the last change to a menu item.
- ***** Waiting time (depends on menu item) that reverts to original setting and ignores any change to that menu item.



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5550720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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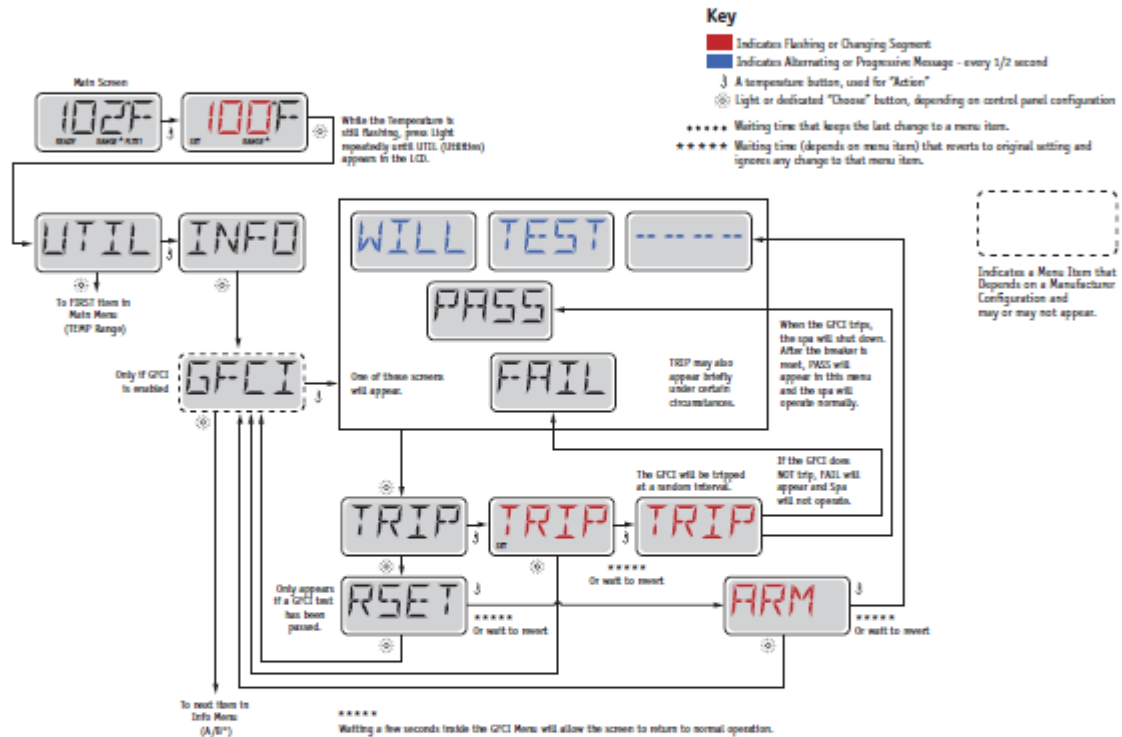
Utilities – GFCI Test Feature

Not Available on CE Rated Systems.

A GFCI is an important safety device and is required equipment on a hot tub installation.

Your spa may be equipped with a GFCI Protection feature. (UL rated systems only.) If your spa has this feature enabled by the manufacturer, the GFCI Trip Test must occur to allow proper spa function.

Within 1 to 7 days after startup, the spa will trip the GFCI to test it. (The number of days is factory programmed.) The GFCI must be reset once it has tripped. After passing the GFCI Trip Test, any subsequent GFCI trips will indicate a ground fault or other unsafe condition and the power to the spa must be shut off until a service person can correct the problem.



Forcing the GFCI Trip Test

The installer can cause the GFCI Trip Test to occur sooner by initiating it using the above menu.

The GFCI should trip within a few seconds and the spa should shut down. If it does not, shut down the power and manually verify that a GFCI breaker is installed and that the circuit and spa are wired correctly. Verify the function of the GFCI with its own test button. Restore power to the spa and repeat the GFCI Trip Test.

Once the GFCI is tripped by the test, reset the GFCI and the spa will operate normally from that point. You can verify a successful test by navigating to the above menu. PASS should appear after a temp button is pressed from the GFCI screen.

The end-user must be trained to expect this one-time test to occur and how to properly reset the GFCI.

Warning:

If freezing conditions exist, a GFCI should be reset immediately or spa damage could result. The end user should always trained to test and reset the GFCI on a regular basis.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

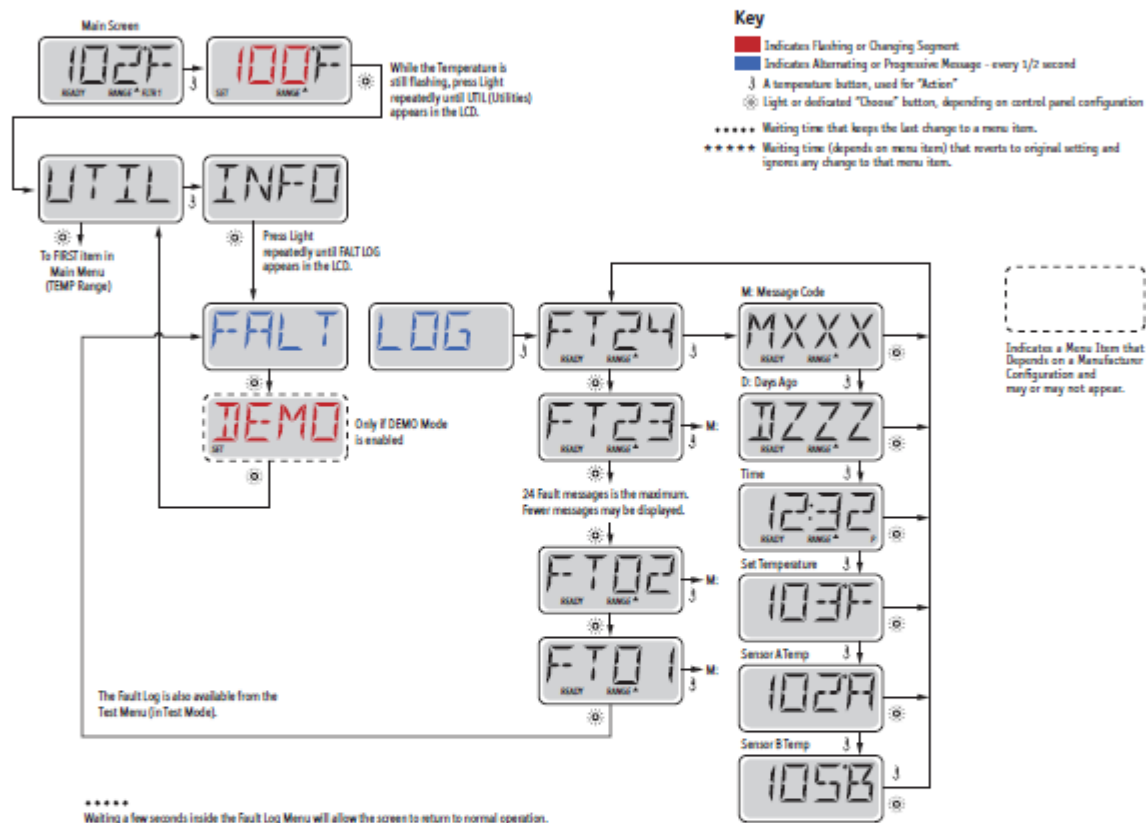
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Utilities – Fault Log

A Little History can tell a lot

The Fault Log stores up to 24 events in memory and they can be reviewed under the Fault Log Menu.

Each event captures a Fault Message Code, how many days have passed since the fault, Time of the fault, Set Temperature during the fault, and Sensor A and B temperatures during the fault.



See following pages for various Message Codes and definitions.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 s2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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General Messages



Priming Mode – M019

Each time the spa is powered up, it will enter Priming Mode. The purpose of Priming Mode is to allow the user to run each pump and manually verify that the pumps are primed (air is purged) and water is flowing. This typically requires observing the output of each pump separately, and is generally not possible in normal operation. Priming Mode lasts 4 minutes, but you can exit it earlier by pressing any Temp button. The heater is not allowed to run during Priming Mode.

NOTE: If your spa has a Circ Pump, it will turn on with Jets 1 in Priming Mode. The Circ Pump will run by itself when Priming Mode is exited.



Water Temperature is Unknown

After the pump has been running for 1 minute, the temperature will be displayed.



Too Cold - Freeze Protection

A potential freeze condition has been detected, or the Aux Freeze Switch has closed, and all pumps and blower are activated. All pumps and blower are ON for at least 4 minutes after the potential freeze condition has ended, or when the aux freeze switch opens.

In some cases, pumps may turn on and off and the heater may operate during Freeze Protection.

This is an operational message, not an error indication.



Water is too Hot (OHS) – M029

One of the water temp sensors has detected spa water temp 110°F (43.3°C) and spa functions are disabled. System will auto reset when the spa water temp is below 108°F (42.2°C). Check for extended pump operation or high ambient temp.



Safety Trip - Pump Suction Blockage* – M033

The Safety Trip error message indicates that the vacuum switch has closed. This occurs when there has been a suction problem or a possible entrapment situation avoided. (Note: not all spas have this feature.)

MOXX numbers are Message Codes. See Page 18.

* This message can be reset from the topside panel with any button press.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6076052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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General Messages



Priming Mode – M019

Each time the spa is powered up, it will enter Priming Mode. The purpose of Priming Mode is to allow the user to run each pump and manually verify that the pumps are primed (air is purged) and water is flowing. This typically requires observing the output of each pump separately, and is generally not possible in normal operation. Priming Mode lasts 4 minutes, but you can exit it earlier by pressing any Temp button. The heater is not allowed to run during Priming Mode.

NOTE: If your spa has a Circ Pump, it will turn on with Jets 1 in Priming Mode. The Circ Pump will run by itself when Priming Mode is exited.



Water Temperature is Unknown

After the pump has been running for 1 minute, the temperature will be displayed.



Too Cold - Freeze Protection

A potential freeze condition has been detected, or the Aux Freeze Switch has closed, and all pumps and blower are activated. All pumps and blower are ON for at least 4 minutes after the potential freeze condition has ended, or when the aux freeze switch opens.

In some cases, pumps may turn on and off and the heater may operate during Freeze Protection.

This is an operational message, not an error indication.



Water is too Hot (OHS) – M029

One of the water temp sensors has detected spa water temp 110°F (43.3°C) and spa functions are disabled. System will auto reset when the spa water temp is below 108°F (42.2°C). Check for extended pump operation or high ambient temp.



Safety Trip - Pump Suction Blockage* – M033

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Heater-Related Messages



Heater Flow is Reduced (HFL) – M016

There may not be enough water flow through the heater to carry the heat away from the heating element. Heater start up will begin again after about 1 min. See “Flow Related Checks” below.



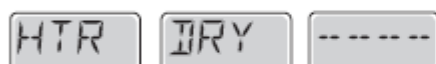
Heater Flow is Reduced (LF)* – M017

There is not enough water flow through the heater to carry the heat away from the heating element and the heater has been disabled. See “Flow Related Checks” below. After the problem has been resolved, you must press any button to reset and begin heater start up.



Heater may be Dry (dr)* – M028

Possible dry heater, or not enough water in the heater to start it. The spa is shut down for 15 min. Press any button to reset the heater start-up. See “Flow Related Checks” below.



Heater is Dry* – M027

There is not enough water in the heater to start it. The spa is shut down. After the problem has been resolved, you must press any button to reset and restart heater start up. See “Flow Related Checks” below.



Heater is too Hot (OHH)* – M030

One of the water temp sensors has detected 118°F (47.8°C) in the heater and the spa is shut down. You must press any button to reset when water is below 108°F (42.2°C). See “Flow Related Checks” below.



A Reset Message may Appear with other Messages.

Some errors may require power to be removed and restored.

Flow-Related Checks

Check for low water level, suction flow restrictions, closed valves, trapped air, too many closed jets and pump prime.

On some systems even when spa is shut down, some equipment may occasionally turn on to continue monitoring temperature or if freeze protection is needed.

* This message can be reset from the topside panel with any button press.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5550720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Sensor-Related Messages

102°F SNSR BAL-- ANCE

Sensor Balance is Poor – M015

The temperature sensors MAY be out of sync by 2°F or 3°F. Call for Service.

SNSR SYNC ----- CALL FOR SRVC -----

Sensor Balance is Poor* – M026

The temperature sensors ARE out of sync. The Sensor Balance is Poor fault has been established for at least 1 hour. Call for Service.

SNSR A ----- CALL FOR SRVC -----

B

Sensor Failure – Sensor A: M031, Sensor B: M032

A temperature sensor or sensor circuit has failed. Call for Service.

Miscellaneous Messages

NO COMM

No Communications

The control panel is not receiving communication from the System. Call for Service.

BETA VER-- SION -----

Pre-Production Software

The Control System is operating with test software. Call for Service.

102°F

°F or °C is replaced by °T

The Control System is in Test Mode. Call for Service.

* This message can be reset from the topside panel with any button press.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 B2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

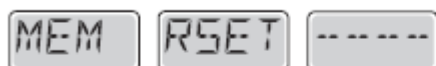
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System-Related Messages



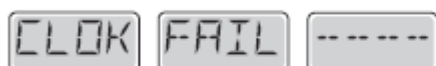
Memory Failure - Checksum Error* – M022

At Power-Up, the system has failed the Program Checksum Test. This indicates a problem with the firmware (operation program) and requires a service call.



Memory Warning - Persistent Memory Reset* – M021

Appears after any system setup change. Contact your dealer or service organization if this message appears on more than one power-up, or if it appears after the system has been running normally for a period of time.



Memory Failure - Clock Error* – M020 - Not Applicable on the BP1500

Contact your dealer or service organization.



Configuration Error – Spa will not Start Up

Contact your dealer or service organization.



GFCI Failure - System Could Not Test/Trip the GFCI – M036

NORTH AMERICA ONLY. May indicate an unsafe installation. Contact your dealer or service organization.



A Pump Appears to be Stuck ON – M034

Water may be overheated. POWER DOWN THE SPA. DO NOT ENTER THE WATER. Contact your dealer or service organization.



A Pump Appears to have been Stuck ON when spa was last powered – M035

POWER DOWN THE SPA. DO NOT ENTER THE WATER.
Contact your dealer or service organization.

* This message can be reset from the topside panel with any button press.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Reminder Messages

General maintenance helps.

Reminder Messages can be suppressed by using the PREF Menu. See Page 12.

Reminder Messages can be chosen individually by the Manufacturer. They may be disabled entirely, or there may be a limited number of reminders on a specific model.

The frequency of each reminder (i.e. 7 days) can be specified by the Manufacturer.

Press a Temperature button to reset a displayed reminder message.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 7 days.

Check pH with a test kit and adjust pH with the appropriate chemicals.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 7 days.

Check sanitizer level and other water chemistry with a test kit and adjust with the appropriate chemicals.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 30 days.

Clean the filter media as instructed by the manufacturer. See HOLD on page 9.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 30 days.

The Ground Fault Circuit Interrupter (GFCI) or Residual Current Device (RCD) is an important safety device and must be tested on a regular basis to verify its reliability.

Every user should be trained to safely test the GFCI or RCD associated with the hot tub installation.

A GFCI or RCD will have a TEST and RESET button on it that allows a user to verify proper function.

Warning:

If freezing conditions exist, a GFCI or RCD should be reset immediately or spa damage could result. The end user should always be trained to test and reset the GFCI or RCD on a regular basis.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Reminder Messages Continued



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 90 days.

Change the water in the spa on regular basis to maintain proper chemical balance and sanitary conditions.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 180 days.

Vinyl covers should be cleaned and conditioned for maximum life.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 180 days.

Wood skirting and furniture should be cleaned and conditioned per the manufacturers instructions for maximum life.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 365 days.

Filters should be replaced occasionally to maintain proper spa function and sanitary conditions.



Alternates with temperature or normal display.

As needed.

Install new mineral cartridge.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 365 days.

Check your ozone and/or UV generator per your spa manufacturer's instructions.



Alternates with temperature or normal display.

Appears on a regular schedule, e.g. every 365 days.

Have a service technician do a check-up on your spa per your spa manufacturer's instructions.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,450, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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Warning! Qualified Technician Required for Service and Installation

Basic Installation and Configuration Guidelines

Use minimum 6AWG copper conductors only.

Torque field connections between 21 and 23 lbs.

Readily accessible disconnecting means to be provided at time of installation.

Permanently connected.

Connect only to a circuit protected by a Class A Ground Fault Circuit Interrupter (GFCI) or Residual Current Device (RCD) mounted at least 5' (1.52M) from the inside walls of the spa/hot tub and in line of sight from the equipment compartment.

CSA enclosure: Type 2

Refer to Wiring Diagram inside the cover of the control enclosure.

Refer to Installation and Safety Instructions provided by the spa manufacturer.

Warning: People with infectious diseases should not use a spa or hot tub.

Warning: To avoid injury, exercise care when entering or exiting the spa or hot tub.

Warning: Do not use a spa or hot tub immediately following strenuous exercise

Warning: Prolonged immersion in a spa or hot tub may be injurious to your health

Warning: Maintain water chemistry in accordance with the Manufacturers instructions.

Warning: The equipment and controls shall be located not less than 1.5 meters horizontally from the spa or hot tub.

Warning! GFCI or RCD Protection.

The Owner should test and reset the GFCI or RCD on a regular basis to verify its function.

Warning! Shock Hazard! No User Serviceable Parts.

Do not attempt service of this control system. Contact your dealer or service organization for assistance. Follow all owner's manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.

CSA Compliance/Conformité

Caution:

- Test the ground fault circuit interrupter or residual current device before each use of the spa.
- Read the instruction manual.
- Adequate drainage must be provided if the equipment is to be installed in a pit.
- For use only within an enclosure rated CSA Enclosure 3.
- Connect only to a circuit protected by a Class A ground fault circuit interrupter or residual current device.
- To ensure continued protection against shock hazard, use only identical replacement parts when servicing.
- Install a suitably rated suction guard to match the maximum flow rate marked.

Warning:

- Water temperature in excess of 38°C may be injurious to your health.
- Disconnect the electrical power before servicing.

Attention:

- Toujours vérifier l'efficacité du disjoncteur différentiel avant d'utiliser différentiel avant d'utiliser le bain.
- Lire la notice technique.
- Lorsque l'appareillage est installé dans une fosse, on doit assurer un drainage adéquat.
- Employer uniquement à l'intérieur d'une clôture CSA Enclosure 3.
- Connecter uniquement à un circuit protégé par un disjoncteur différentiel de Class A.
- Afin d'assurer une protection permanente contre le danger de choc électrique, lors de l'entretien employer seulement des pièces de rechange identiques.
- Les prises d'aspiration doivent être équipées de grilles convenant au débit maximal indiqué.

Avertissement:

- Des températures de l'eau supérieures à 38°C peuvent présenter un danger pour la santé.
- Déconnecter du circuit d'alimentation électrique avant l'entretien.

Warning/Advertissement:

- Disconnect the electric power before servicing. Keep access door closed.
- Déconnecter du circuit d'alimentation électrique avant l'entretien. Garder la porte fermée.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5550720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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UNLESS YOU HAVE THE APPROPRIATE ELECTRICAL LICENCE DO NOT OPEN THE SPAS COMPUTER BOX, PLEASE CONTACT THE STORE OF PURCHASE FOR DETAILS OF A LICENCED CONTRACTOR.

If you have any issue with your spa and the troubleshooting does not resolve your issue, please contact the store of purchase before engaging a technician or electrician for help. We will arrange a time for one of our technicians to be available to assist your technician or electrician with phone advice. Failure to do so may lead to your technician or electrician not being able to find or fix the fault leading to further unnecessary call outs to your site.