

# Acrylic Spa Owner's Manual

United States and Canada



# Table of Contents

## Important Safety Instructions. .... 1

### Preparing for Your New Portable Spa 2

Pre-Delivery Checklist .....	3
Planning the Best Location .....	3
Preparing a Good Foundation .....	4
Clearance for Service Access.....	4
Front Door Panel for Electrical Hookup .....	5
240 Volt Electrical Installation .....	6
Testing the GFCI Breaker.....	6
GFCI Wiring Requirements .....	6
GFCI Wiring Diagram (Balboa) .....	7
Filling and Powering Up Your Portable Spa ...	8
Priming the Pump .....	10

### Operating Your Spa ..... 11

TP5005 Spa Topside Control Panel .....	11
Fill it Up! .....	13
Adjusting Filtration .....	20
Light Timer Programming .....	21
Utilities.....	26-28
Spa Messages .....	29-36
Spa Touch Icon Control Panel .....	37-42
Heater-Related Messages.....	50
Sensor-Related Messages .....	51
System-Related Messages .....	52
Jets .....	53
Waterfall.....	54

### Clear Water Plan ..... 55

The Key to Clear Water.....	55
Testing and Adjusting Spa Water .....	56
Sanitation .....	57
Bather Load .....	58
Filter Cleaning .....	58
Ozonator .....	58
Maintenance Schedule .....	59
Troubleshooting Water Clarity Problems.....	60

## Cleaning and Maintenance ..... 61

Jet Removal and Replacement.....	62
Spa Cover and Locking System.....	64
Draining Your Portable Spa .....	65
Vacation Care.....	66
Cleaning and Replacing the Filter.....	66
Cleaning Your Spa .....	67

## Perimeter Lighting / Optional Item .. 68

LED Lighting.....	68
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## Appendix ..... 69

Replacement Parts .....	69
“Thermal Creep” .....	76
Limited Warranty.....	77
Locating the Product Serial Number.....	79

#### CONTACT INFORMATION

For customer service, please contact your authorized dealer immediately. If you need additional information and/or assistance, contact:

**LMS Customer Service Department**  
**1462 East Ninth Street**  
**Pomona, CA 91766.**

Toll Free: 1-800-225-7727  
Fax: 1-909-629-3890



# Important Safety Instructions

1

Read This First!

## READ AND FOLLOW ALL INSTRUCTIONS.

### **WARNING:**

To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

### **DANGER -- Risk of accidental drowning:**

Do not allow children to be in or around a spa unless a responsible adult supervises them. Keep the spa cover on and locked when not in use. See instructions enclosed with your cover for locking procedures.

### **DANGER -- Risk of injury:**

The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings, or the pump, be sure the flow rates are compatible.

Never operate the spa if the suction fitting or filter baskets are broken or missing. Never replace a suction fitting with one that is rated less than the flow rate marked on the original suction fitting.

### **DANGER -- Risk of electric shock:**

Install the spa at least 5 feet (1.5 meters) from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently bonded by a minimum #8 AWG solid copper conductor to the outside of the spa's control box.

### **DANGER -- Risk of electric shock:**

Do not permit any external electrical appliances, such as lights, telephones, radios, televisions, and etc., within five feet (1.5 meters) of the spa. Never attempt to operate any electrical device from inside the spa.

### **WARNING -- To reduce the risk of injury:**

The spa water should never exceed 104°F (40°C). Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.

High water temperatures have a high potential for causing fetal damage during pregnancy. Women who are pregnant, or who think they are pregnant, should always check with their physician prior to spa usage.

The use of alcohol, drugs or medication before or during spa use may lead to unconsciousness, with the possibility of drowning.

Persons suffering from obesity, a medical history of heart disease, low or high blood pressure, circulatory system problems or diabetes should consult a physician before using the spa.

Persons using medications should consult a physician before using the spa since some medications may induce drowsiness while others may affect heart rate, blood pressure and circulation.

### **HYPERTHERMIA DANGER:**

Prolonged exposure to hot air or water can induce hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level 3°F to 6°F above the normal body temperature of 98.6°F (or 2°C to 4°C above 37°C). While hyperthermia has many health benefits, it is important not to allow your body's core temperature to rise above 103°F (39.5°C).

Symptoms of excessive hyperthermia include dizziness, lethargy, drowsiness and fainting. The effects of excessive hyperthermia may include:

- Failure to perceive heat
- Failure to recognize the need to exit spa or hot tub
- Unawareness of impending hazard
- Fetal damage in pregnant women
- Physical inability to exit the spa
- Unconsciousness

**WARNING:** The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia.

**DANGER -- Risk of electric shock:**

- Replace a damaged power cord immediately.
- Do not bury the power cord.
- Connect to a grounded, grounding-type receptacle only.

**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 drugs or alcohol before or during the use of a spa or hot tub to avoid unconsciousness and possible drowning.

**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.

**CAUTION:** Maintain water chemistry in accordance with manufacturer's instructions.

**SAVE THESE INSTRUCTIONS.**

# Preparing for Your New Portable Spa

## Pre-Delivery Checklist

Most cities and counties require permits for exterior construction and electrical circuits. In addition, some communities have codes requiring residential barriers such as fencing and/or self-closing gates on property to prevent unsupervised access to the property by children. Your dealer can provide information on which permits may be required and how to obtain them prior to the delivery of your spa.

Before Delivery	
	Plan your delivery route
	Choose a suitable location for the spa
	Lay a 5 - 8 cm concrete slab
	Install dedicated electrical supply
	Crane must be acquired for GEO-F-1325
After Delivery	
	Place spa on slab
	Connect electrical components

## Planning the Best Location

### Safety First

Do not place your spa within 10 feet (3 m) of overhead power lines.

### Consider How You Will Use Your Spa

How you intend to use your spa will help you determine where you should position it. For example, will you use your spa for recreational or therapeutic purposes? If your spa is mainly used for family recreation, be sure to leave plenty of room around it for activity. If you will use it for relaxation and therapy, you will probably want to create a specific mood around it.

### Plan for Your Environment

If you live in a region where it snows in the winter or rains frequently, place the spa near a house entry. By doing this, you will have a place to change clothes and not be uncomfortable.

### Consider Your Privacy

In a cold-weather climate, bare trees won't provide much privacy. Think of your spa's surroundings during all seasons to determine your best privacy options. Consider the view of your neighbors as well when you plan the location of your spa.

### Provide a View with Your Spa

Think about the direction you will be facing when sitting in your spa. Do you have a special landscaped area in your yard that you find enjoyable? Perhaps there is an area that catches a soothing breeze during the day or a lovely sunset in the evening.

### Keep Your Spa Clean

In planning your spa's location, consider a location where the path to and from the house can be kept clean and free of debris.

Prevent dirt and contaminants from being tracked into your spa by placing a foot mat at the spa's entrance where the bathers can clean their feet before entering your spa.

### Allow for Service Access

Make sure the spa is positioned so that access to the equipment compartment and all side panels will not be blocked.

Many people choose to install a decorative structure around their spa. If you are installing your spa with any type of structure on the outside, such as a gazebo, remember to allow access for service. It is always best to design special installations so that the spa can still be moved, or lifted off the ground.

## Preparing a Good Foundation

Your spa needs a solid and level foundation. The area that it sits on must be able to support the weight of the spa, with water and the occupants who use it. If the foundation is inadequate, it may shift or settle after the spa is in place, causing stress that could DAMAGE YOUR SPA SHELL AND FINISH.

**Damage caused by inadequate or improper foundation support is not covered by the warranty. It is the responsibility of the spa owner to provide a proper foundation for the spa.**

Place the spa on an elevated 3 to 4" / 30 cm concrete slab. Pavers, gravel, brick, sand, timbers or dirt foundations are **not** adequate to support the spa.

We strongly recommend that a qualified, licensed contractor prepare the foundation for your spa.

If you are installing the spa indoors, pay close attention to the flooring beneath it. Choose flooring that will not be damaged or stained.

If you are installing your spa on an elevated wood deck or other structure, it is highly recommended that you consult a structural engineer or contractor to ensure the structure will support the weight of 150 pounds per square foot (732 kg / m<sup>2</sup>).

To properly identify the weight of your new spa when full, remember water weighs 8.33 lbs. per gallon, or 1 kg per liter. For example, an average 8' spa holds approximately 500 gallons, or 1892 liters, of water. Using this formula, you will find that the weight of the water alone is 4,165 lbs, or 1892 kg. Combined with the dry weight of the spa you will note that this spa will weigh approximately 5,000 lbs, or 2267 kg, when full of water.



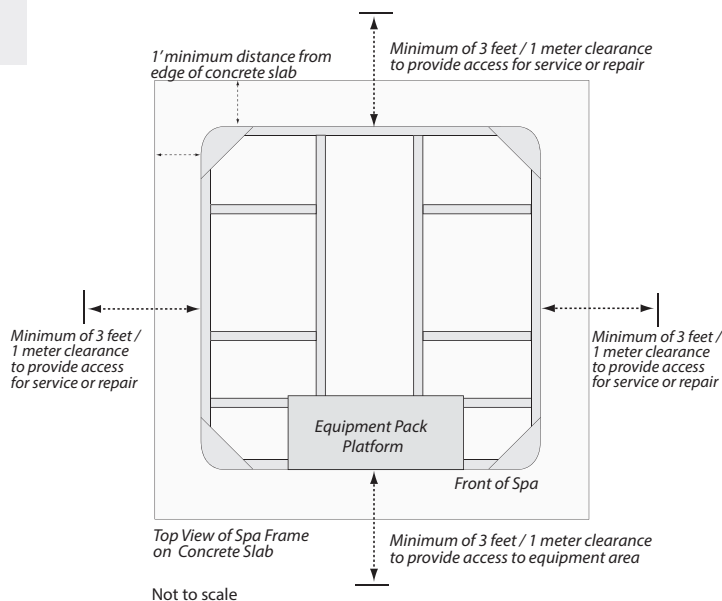
## Clearance for Service Access

While you are planning where to locate your spa, you need to determine how much access you will need for service.

GEO Spas require at least 3 feet / 1 meter access to all sides of the spa for service. For this reason, the spa should never be placed in a manner where any side is permanently blocked. Examples include placing the spa against a building, structural posts or columns, or a fence.

If you are planning to enclose or surround your spa with a deck, make sure there is access for service or repair.

**Spas require clearance on all sides of the spa.**





## Opening the Front Door Panel for Electrical Hookup

**The following electrical connections must be performed by a licensed electrical contractor.** Unscrew and remove the two corner panels on each side of the spa's front door. Then remove the front door.



Note that the drain pipe is internal to the cabinet.

Pictured to the right is the inside of the spa behind the front door. The electrician now has access to connect the spa for power. While the front door is off, refer to page 8 for instructions on ensuring the plumbing fittings are secure (but do not be tempted to over-torque or over-tighten these fittings).



Reattach and screw panels back in. (Front door is installed first, then install the corner panels.)



## 240 Volt Electrical Installation

All 240V spas must be permanently connected (hard wired) to the power supply. See the wiring diagram on page 7.

**These instructions describe the only acceptable electrical wiring procedure. Spas wired in any other way will void your warranty and may result in serious injury.**

When installed in the United States, the electrical wiring of this spa must meet the requirements of NEC 70 and any applicable local, state, and federal codes.

**The electrical circuit must be installed by an electrical contractor and approved by a local building or electrical inspector.**

**Failure to comply with state and local codes**

**may result in fire or personal injury and will be the sole responsibility of the spa owner.**

The power supplied to the spa must be on a dedicated GFCI protected circuit as required by NEC 70 with no other appliances or lights sharing the power.

Use copper wire with THHN insulation. Do not use aluminum wire.

Use the table below and on the next page to determine your GFCI and wiring requirements.

Wires that run over 100 feet must increase wire gauge to the next lower number. For example: A normal 50 amp GFCI with four #6 AWG copper wires that run over 100 feet would require you to go to four #4 AWG copper wires.

## Testing the GFCI Breaker

Test the GFCI breaker prior to first use and periodically when the spa is powered. To test the GFCI breaker follow these instructions (spa should be operating):

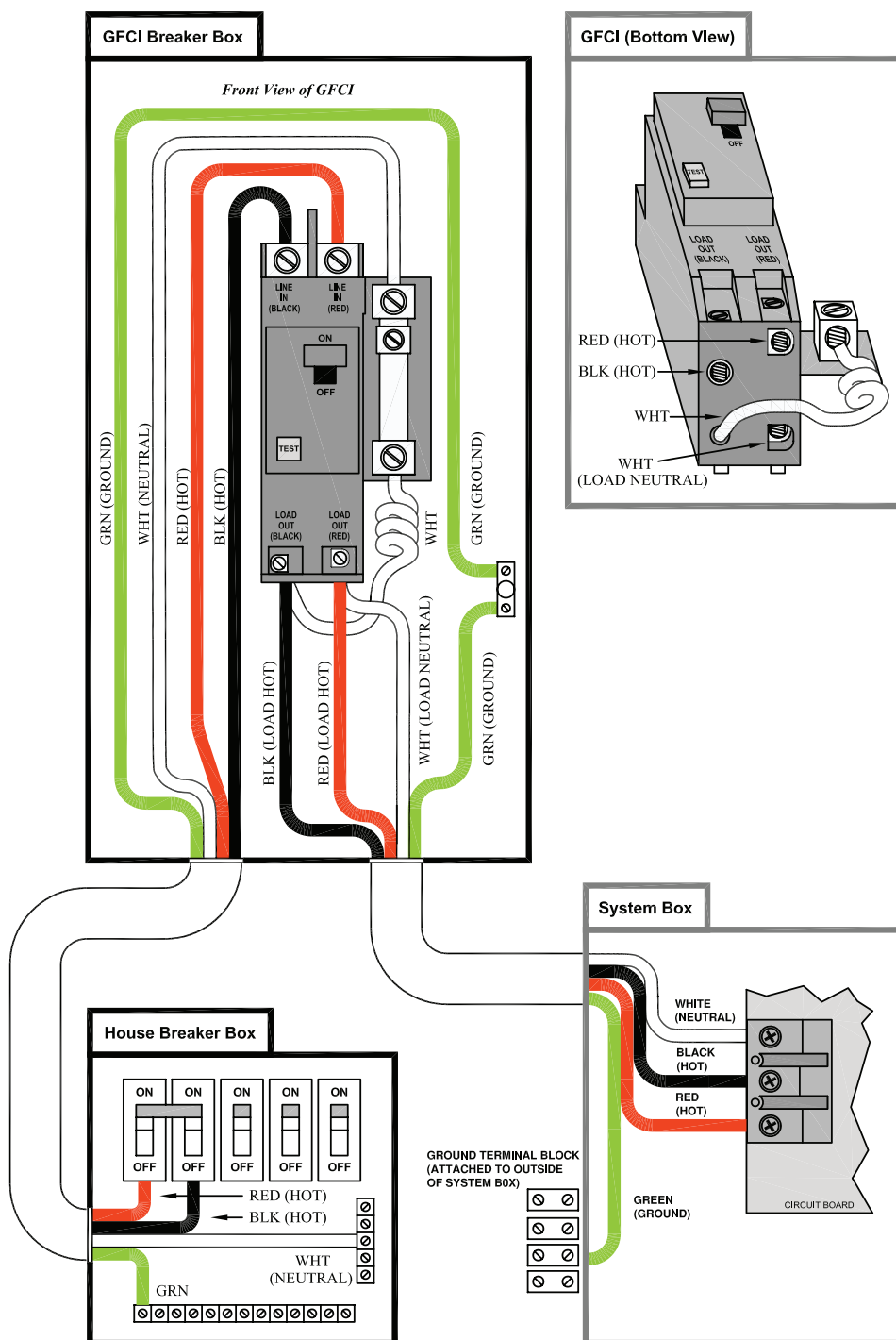
1. Press the TEST button on the GFCI. The GFCI will trip and the spa will shut off.
2. Reset the GFCI breaker by switching the breaker to the full OFF position, wait a moment, then turn the breaker back on. The spa should have power again.

## GFCI and Wiring Requirements

Spa Model	Control System	Pumps	GFCI Required	Wires Required
GEO-760L	BP50161G	2 pump	One 50 amp GFCI	Four #6 AWG Copper Wires
GEO-760B	BP50161G	2 pump	One 50 amp GFCI	Four #6 AWG Copper Wires
GEO-860L	BP50161G	2 pump	One 50 amp GFCI	Four #6 AWG Copper Wires
GEO-861B	BP50161G	2 pump	One 50 amp GFCI	Four #6 AWG Copper Wires
GEO-734L	BP50161G	1 pump	One 40 amp GFCI	Four #8 AWG Copper Wires
GEO-734B	BP50161G	1 pump	One 40 amp GFCI	Four #8 AWG Copper Wires
GEO-1325	BP501X	3 pump	One 50 amp GFCI	Four #6 AWG Copper Wires
GEO-1681	BP20X	4 pump	One 60 amp GFCI	Four #6 AWG Copper Wires



## GFCI Wiring Diagram (Balboa)





## Filling and Powering Up Your Portable Spa

### 1. Inspect the spa equipment.



After the spa has been placed on an approved surface and has been correctly wired by a licensed electrician, inspect all plumbing connections in the equipment area of your spa. Ensure that these connections are secure and that they did not loosen during shipment.

If your spa has gate valves, make sure they are all in the UP or OPEN position. **IMPORTANT NOTE: Depending on the year and model, your particular spa may not be equipped with gate valves.**

Never run the spa with the gate valves closed or without water circulating for long periods of time. Be careful not to over-tighten the plumbing fittings.

### 2. Remove the cartridge from filter canister.



Unscrew the cartridge and remove it.



After you remove the filter, remove the plastic wrapper and soak it in water for 30 minutes before you replace it. A dry filter can allow air into the filtration system which can cause the pump to fail to prime. Never try to pull the filter cartridge while the spa is running in low or high speed (i.e., any speed).

### 3. Fill the spa.



Place a garden hose in the filter canister and fill your spa with **regular tap water** about six inches from the top.

If the water level is too low or too high, your spa will not operate properly.



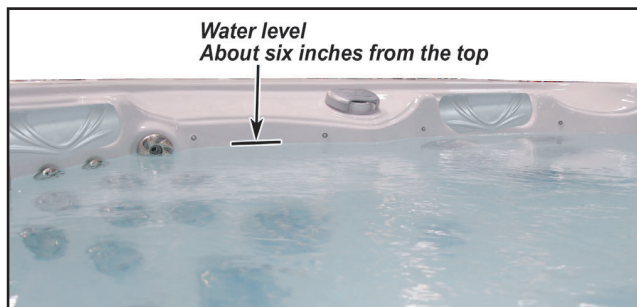
Always fill the spa through the filter canister! Failure to do so may cause air to be trapped in the filtration system and prevent the pumps from operating properly.



#### **Never fill your spa with soft water.**

Soft water makes it impossible to maintain the proper water chemistry and may cause the water to foam, which will ultimately harm the finish of the spa and void your warranty.

You may fill your spa with **well water provided the following conditions are met:** 1) Purchase and use a pre-filter to run the well water through on the fill-up. The pre-filter will be placed before the spa filter in the fill-up flow of water. 2) Have a Total Dissolved Solids (TDS) and metals test performed by a qualified person after the fill-up process but before any spa use.





#### 4. Turn on power to the spa.



When the spa is filled to the correct level, turn on the power at the GFCI breaker. (Ensure that the 120V spas are connected to the proper electrical outlet.)

#### 5. Prime the pump. See Page 13.



#### 6. Install the filter into the filter canister.



Make sure the filter has soaked at least 30 minutes before you install it. Insert the filter all the way and screw it in. Do not over-torque the cartridge during installation, just hand tighten gently.

#### 7. Adjust water chemistry.

Test and adjust the water chemistry. See the section on page 39 for instructions on water clarity.

#### 8. Let the spa heat up.

When the spa has finished priming, the heater will activate. Put the cover on and let the spa heat to the set temperature.

## Priming the Pump

New spa owners often have difficulty the first time they start their spa and the pump fails to prime. This can be frustrating, but these simple instructions can help you.

Sometimes air can become trapped in the pump while filling the spa. You will know this has happened when after you have filled and started the spa, the pump does not seem to function. You will hear the pump operating, but no water will be moving.

There are two methods of priming the pump.

### The first method will remove small air bubbles trapped in the pump.

1. Turn the spa on and wait for PR (Priming Mode) to appear on the topside display.
2. Press the JETS 1 button to turn on the pump and let it run for 10 seconds. The pump should be running in low speed.
3. Press the JETS 1 buttons again and let the pump run in high speed for 10 seconds.
4. Press the JETS 1 button again to turn off the pump. The pump should be left in the off position for 10 to 15 seconds.
5. Repeat steps 1 through 4 until water is flowing through all the jets and all air is removed from the plumbing.

### The second method will remove a large air lock within the pump.

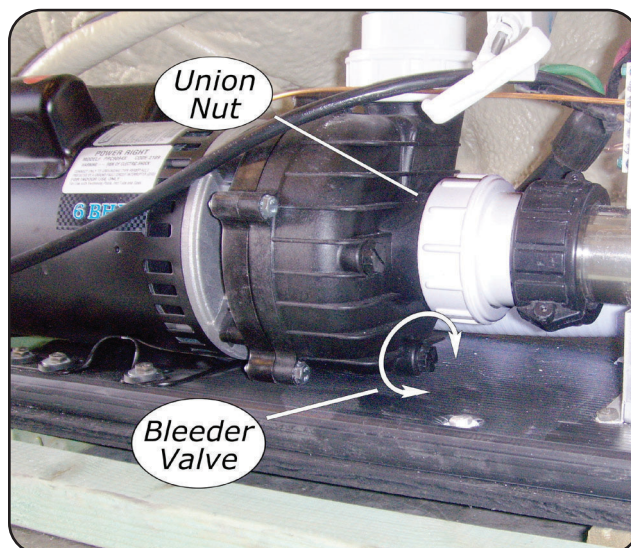
1. Using a Phillips screwdriver, remove the front panel from the spa and locate the pump.
2. While the spa is operating, turn the bleeder valve counter clockwise with a small pair of pliers or a flat head screwdriver until the air has been released from the pump.
3. If this is unsuccessful, loosen the white union nut on side of the pump with channel locks. When air is bled out, tighten the nut and set the pump on high speed.



The pump will not work properly while air is trapped in it. Continuing to operate the pump in this way will cause damage.

Whenever you fill your spa, fill it through the filter canister and make sure all jets are open.

Note: If you press the **Temp** button any time during Priming Mode, it will exit that mode and begin Standard Mode.



# Operating Your Spa

## TP500S Spa Topside Control Panel

User Guide for Standard Menu

System Model: All BP series systems

Panel Model: TP500S Series

Panel Software Version: All versions



TP500S

## Display Icons



A - Heat	F - Light	K - Auxiliary (Jets 3 or MICRO SILK®)
B - Ready Mode	G - Cleanup Cycle	L - Temperature Range (High / Low)
C - Rest Mode	H - Jets 1	M - Set (Programming)
D - bba™2 On	I - Jets 2	N - Filter Cycle (1 or 2 or Both)
E - WiFi (Cloud Connection)	J - Blower	O - AM or PM (Time)

MicroSilk® is a registered trademark of Jason International.

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.

## 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 MENU/SELECT Button is used to choose the various menus and navigate each section.

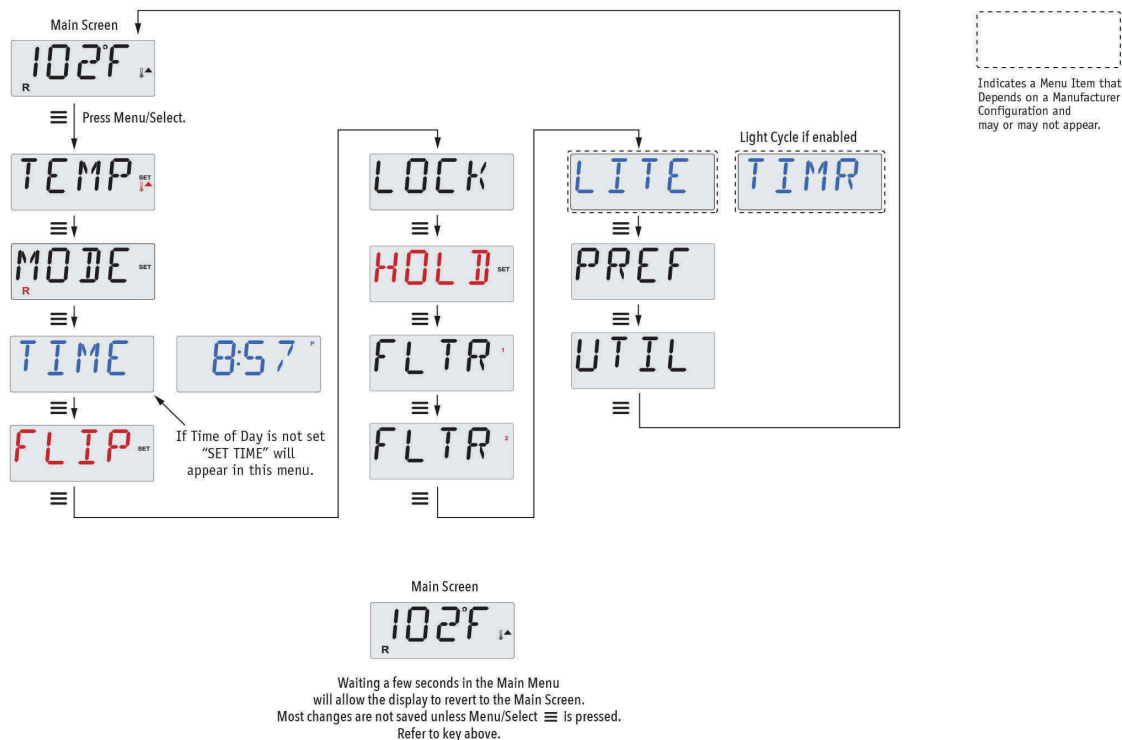
Typical use of the Temperature button(s) allows changing the Set Temperature while the numbers are flashing in the LCD. The menus can be exited with certain button presses. Simply waiting for a few seconds will return the panel operation to normal.

#### 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"
- ≡ Menu/Select button
- 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, 5,883,459, 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.



## 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 - MO19\*

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 start 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 "Jets" or "Aux" 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 "Jets" button once to start Pump 1 in low-speed and then again to switch to high-speed. Also, push the "Jets 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 the "Warm" or "Cool" button. 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 water 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.



\*MO19 is a Message Code. See Page 18.

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.

## Spa Behavior

### Pumps

Press the "Jets" 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.

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 once in a while for at least 1 minute 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 or blower 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, all water devices (other than the primary pump) will run briefly to purge the plumbing to maintain good water quality. The term "water devices" includes the Blower.

### 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 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, 5,883,459, 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.

# 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 a thermometer and an "up" arrow, and the Low Range designated in the display by a thermometer and "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.*

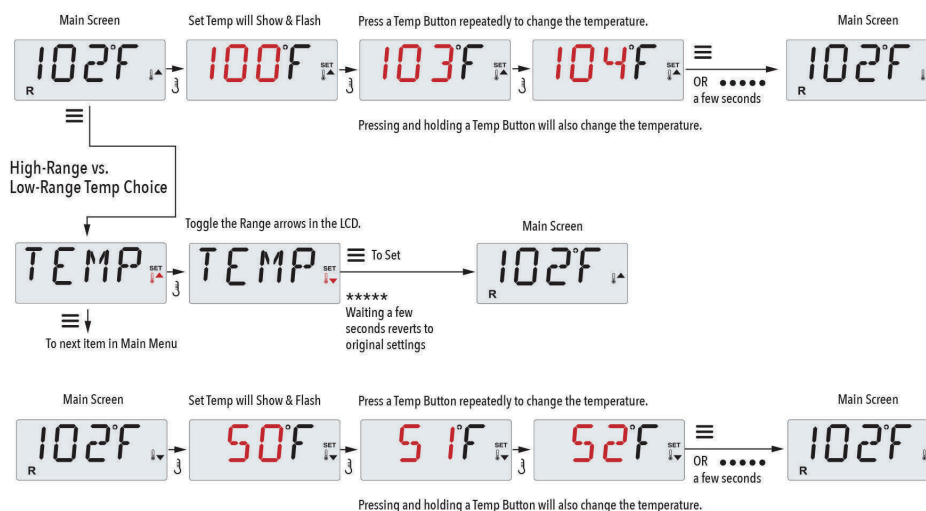
*See Ready and Rest on Page 6*

*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"
- ≡ Menu/Select button

- ..... 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, 5,883,459, 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.



## 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 "primary pump."

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

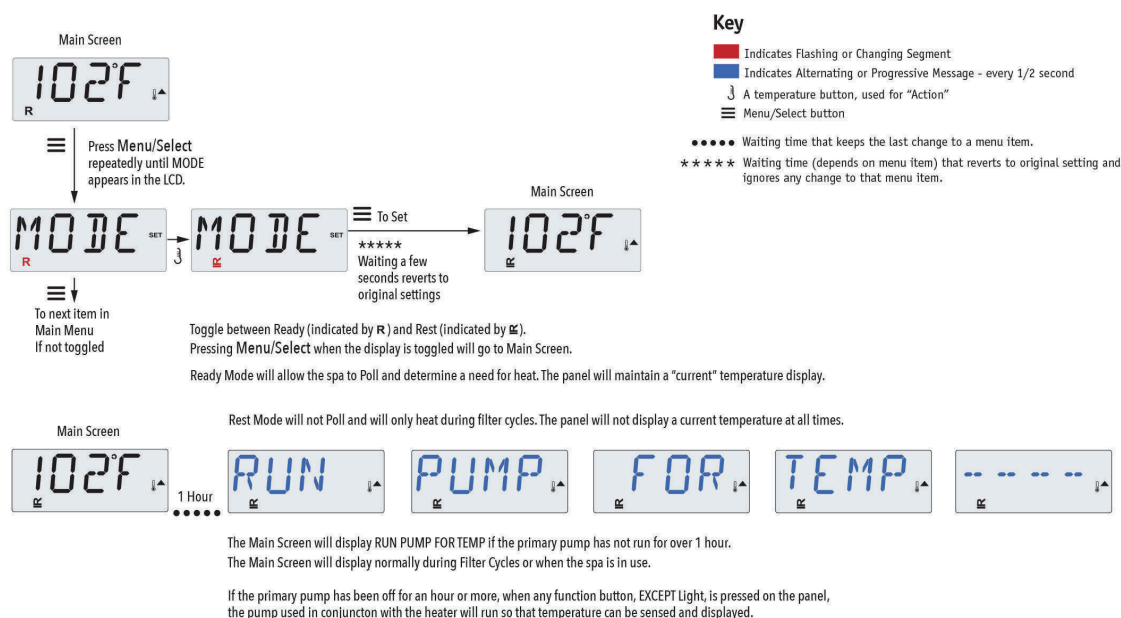
If the primary pump is a 2-Speed Pump 1, Ready Mode (indicated by **R**) will circulate water periodically, using Pump 1 Low, in order to maintain a constant water temperature, heat as needed, and refresh the temperature display. This is known as "polling."

Rest Mode (indicated by **⏸**) will only allow heating during programmed filter cycles. Since polling does not occur, the temperature display may not show a current temperature until the primary pump has been running for a minute or two.

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

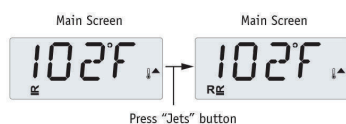
If the spa is configured for 24HR circulation, the primary pump generally runs continuously. Since the primary pump is always running, the spa will maintain set temperature and heat as needed in Ready Mode, without polling.

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

**R ⏸** appears in the display if the spa is in Rest Mode and "Jets" is pressed. It is assumed that the spa is being used and will heat to set temperature. The primary pump 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, 5,883,459, 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.



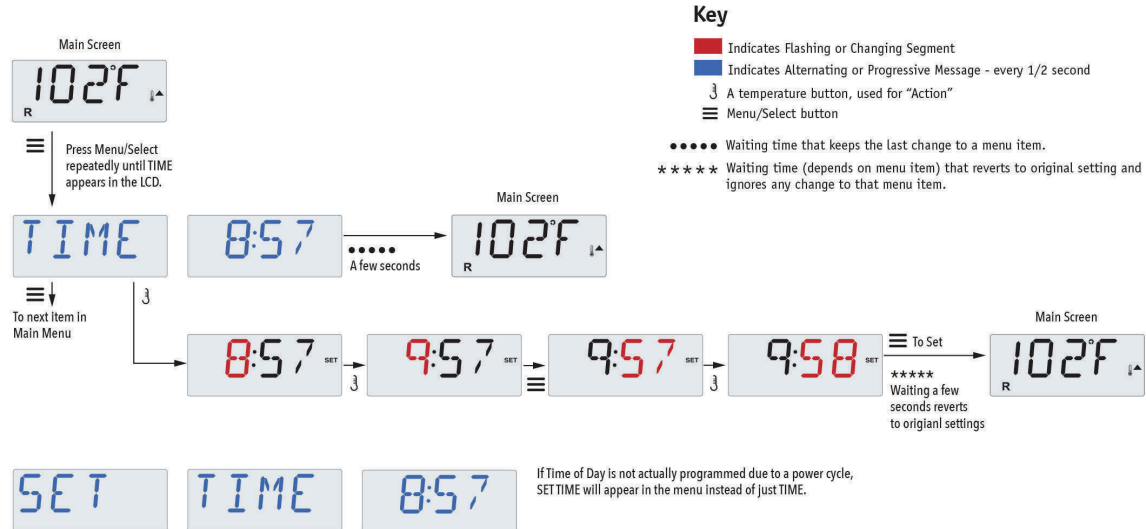
## Show and Set Time-of-Day

### 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)



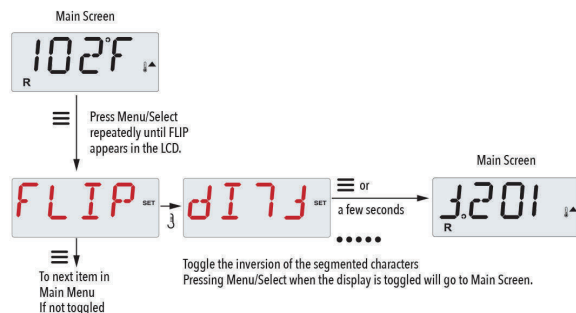
### Note:

This note refers to systems that do not keep track of Time-of-Day when powered down.

If power is interrupted to such a 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 such a 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)



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.

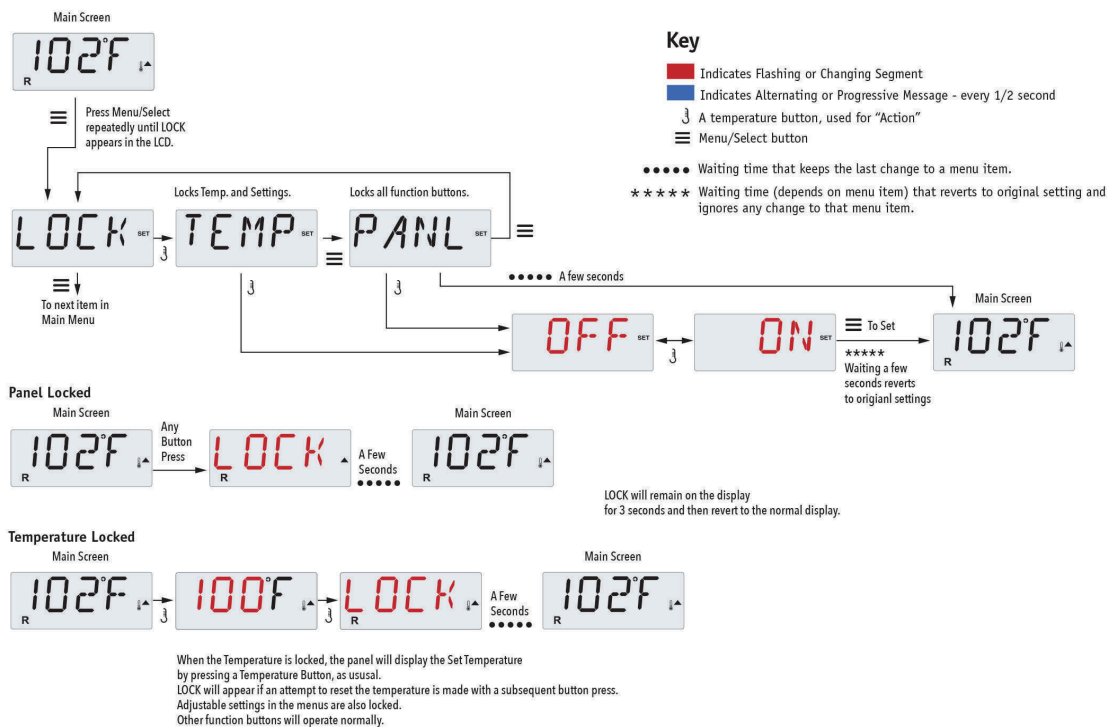
## Restricting Operation

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.

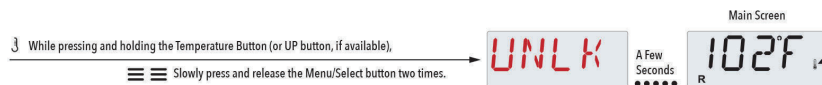
Locking the Temperature allows Jets and other features to be used, but the Set Temperature and other programmed settings cannot be adjusted.

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.

The temperature will not Unlock if the Unlock sequence is done while the panel is displaying "LOCK".

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.

# 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.

Drain Mode will time out with Hold Mode.

### Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message - every 1/2 second
- A temperature button, used for "Action"
- Menu/Select button

- ..... 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.



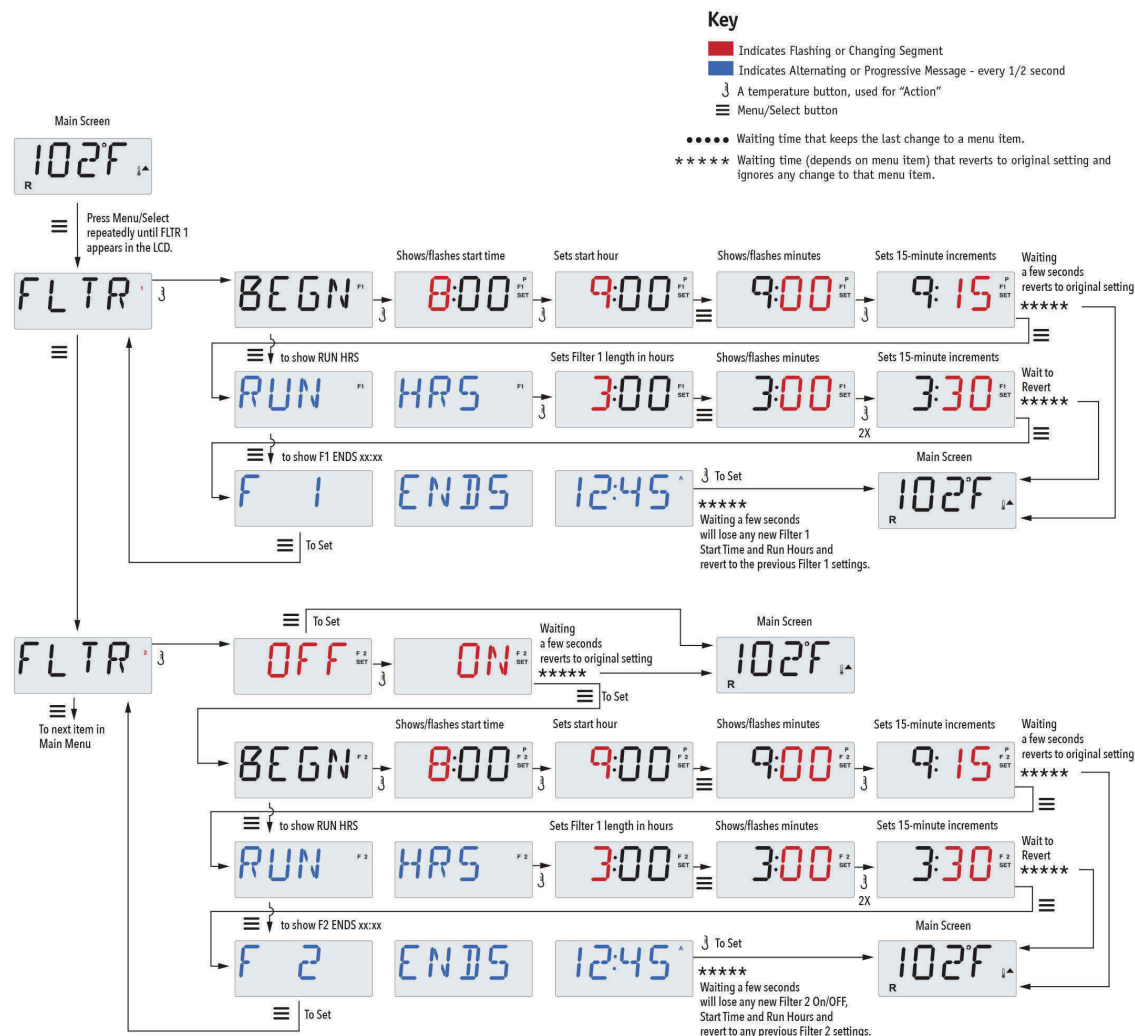
M037 is a Message Code. See Page 18.

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.

## Adjusting Filtration

### Main Filtration

Filter cycles are set using a start time and a duration. Start time is indicated by an "A" or "P" in the bottom right corner of the display. Duration has no "A" or "P" indication. Each setting can be adjusted in 15-minute increments. The panel calculates the end time and displays it automatically.



### Filter Cycle 2 - Optional Filtration

Filter Cycle 2 is OFF by default.

It is possible to overlap Filter Cycle 1 and Filter Cycle 2, which will shorten overall filtration by the overlap amount.

### Purge Cycles

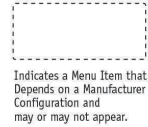
In order to maintain sanitary conditions, secondary Pumps and/or a Blower will purge water from their respective plumbing by running briefly at the beginning of each filter cycle.

If Filter Cycle 1 is set for 24 hours, enabling Filter Cycle 2 will initiate a purge when Filter Cycle 2 is programmed to begin.

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.

When available, the Light Timer is OFF by default.

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



## Preferences

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### *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 display of reminder messages (like "Clean Filter") On or Off.

Note: Reminders continue to run in the background even when not displayed. So turning the display of Reminders On or Off does not reset any Reminder counts.

### *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.

### *M8*

(This message may not appear on all systems.) On systems that have M8, it is enabled by default. It can be disabled (or re-enabled) here. M8 reduces polling intervals when the water temperature in the spa is steady.

### *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: 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.



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## Utilities and Information

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### *INFO* (System Information sub-menu)

The System Information Menu displays various settings and identification of the particular system.

### *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, 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.



## Additional Utilities

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### 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)

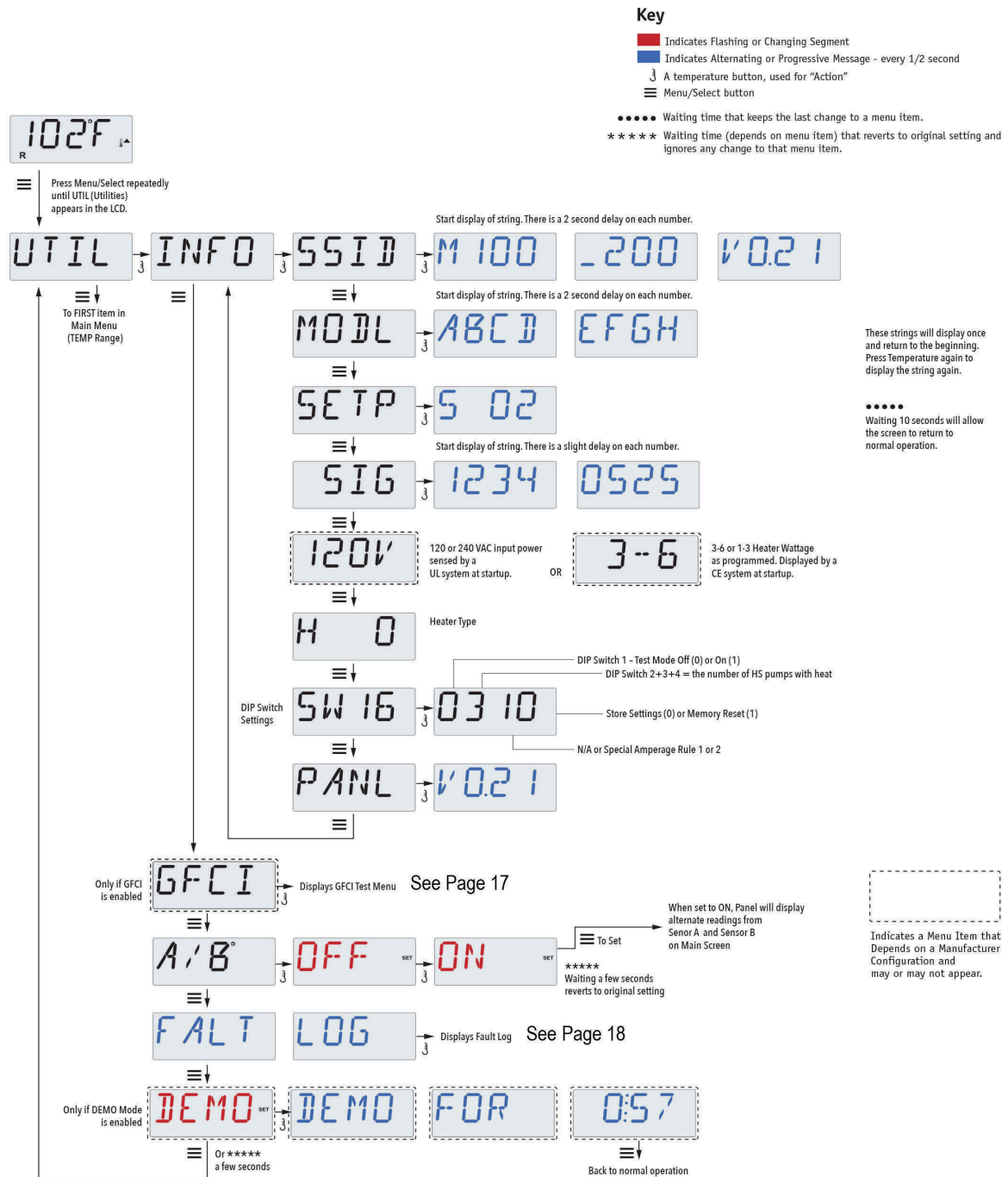
The Fault Log is a record of the last 24 faults that can be reviewed by a service tech.

#### *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.

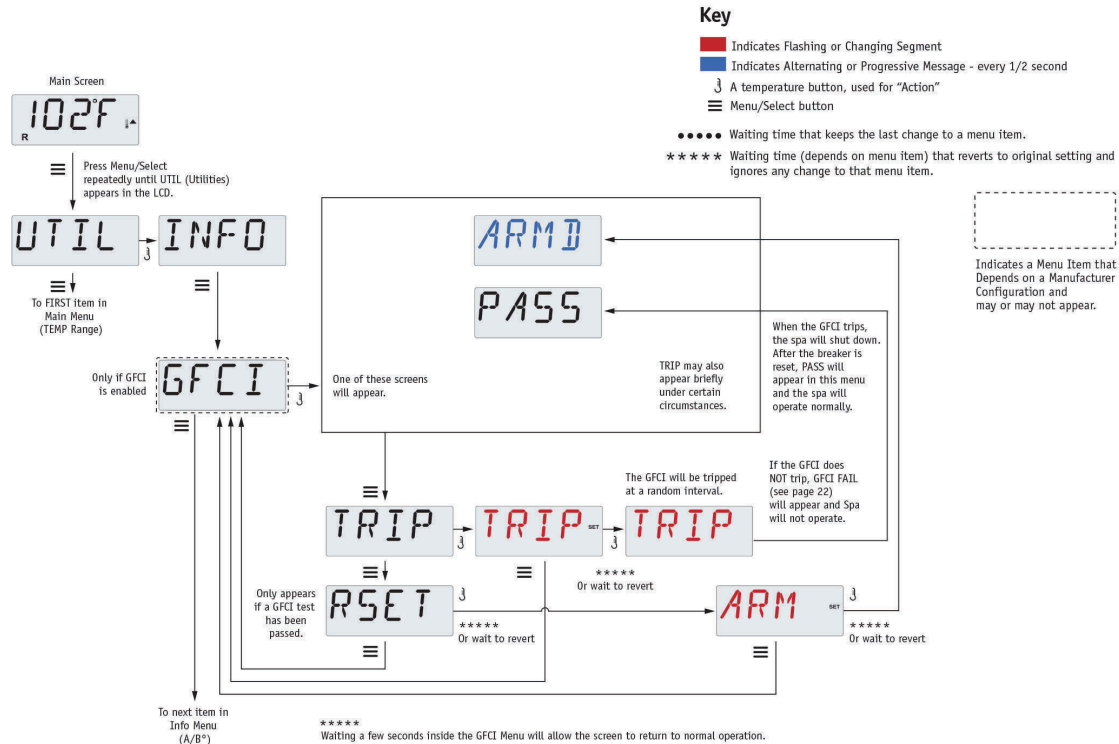
Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending.

# Utilities



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.

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.

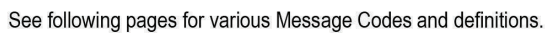
Warning:

If freezing conditions exist, a GFCI should be reset immediately or spa damage could result. The end user should always be 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, 5,883,459, 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.

## A Little History can tell a lot

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.



03/06/20

## General Messages



### Priming Mode – MO19

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 "Light" 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, either one at a time, or all at once, depending on how your system was built. 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) – MO29

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.



### J29 Warning – MO44

J29 is typically used as a Heater Disable input. As such, it should not typically be shorted at power-up. This message appears if J29 is shorted at power-up.

M0XX 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, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending.



## Heater-Related Messages



### Heater Flow is Reduced (HFL) – MO16

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)\* – MO17

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)\* – MO28

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\* – MO27

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)\* – MO30

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, 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.

## Sensor-Related Messages



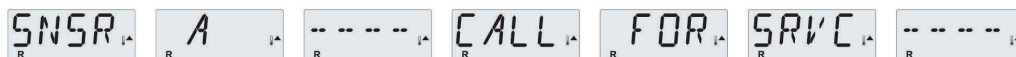
### Sensor Balance is Poor – MO15

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



### Sensor Balance is Poor\* – MO26

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



### Sensor Failure – Sensor A: MO31, Sensor B: MO32

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

## Miscellaneous Messages



### No Communications

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



### Pre-Production Software

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



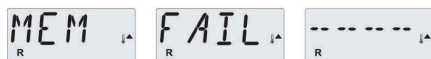
### °F or °C is replaced by °T

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, 5,883,459, 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.

## System-Related Messages



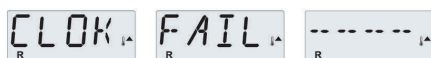
### Memory Failure - Checksum Error\* – MO22

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\* – MO21

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.



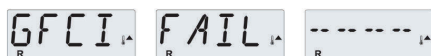
### Memory Failure - Clock Error\* – MO20 - Not Applicable on the BP1500

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 – MO36

NORTH AMERICA ONLY. May indicate an unsafe installation. 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, 5,883,459, 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.

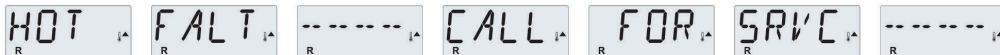


## System-Related Messages



### A Pump Appears to be Stuck ON – MO34

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 - MO35

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



### The water level is too low

Some systems have a water level detect, and this message appears if it detects that the water level is too low.

\* 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, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending.

## Reminder Messages

### General maintenance helps.

The display of 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 (e.g. 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.

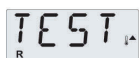
Check sanitizer level and other water chemistry with a test kit and adjust with the appropriate chemicals.



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, 5,883,459, 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.

## 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 manufacture'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, 5,883,459, 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.

## 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 in 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 shock 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.

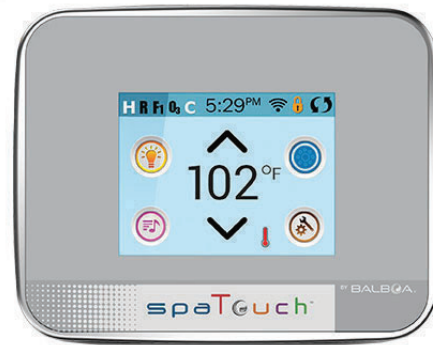
#### Warning/Advertissement:

- 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, 5558720, 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.

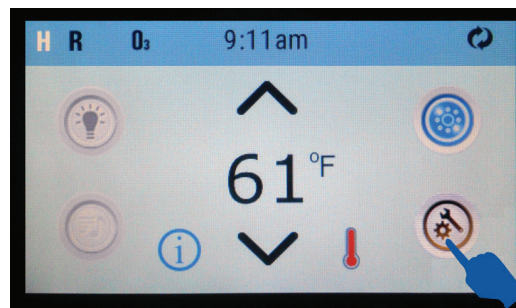


## 3.1 Spa Touch Icon Driven Control Panel



## 3.2 Changing Languages for the Display

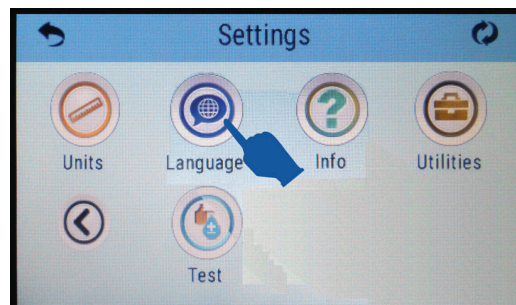
**Step 1.** Touch the Settings Icon  at the lower right portion of the screen.




**Step 2.** Touch the Right Arrow Icon  at the lower right portion of the screen. It takes you to the next screen.

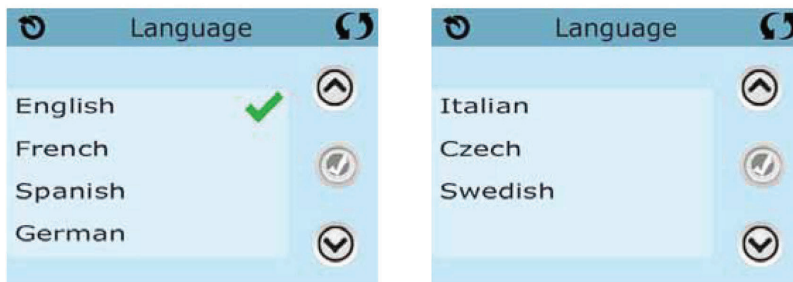


**Step 3.** Touch the Language Icon .

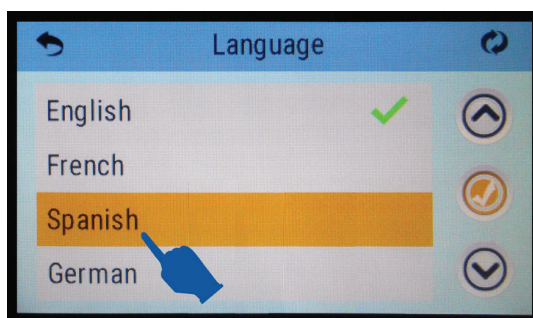


## Language

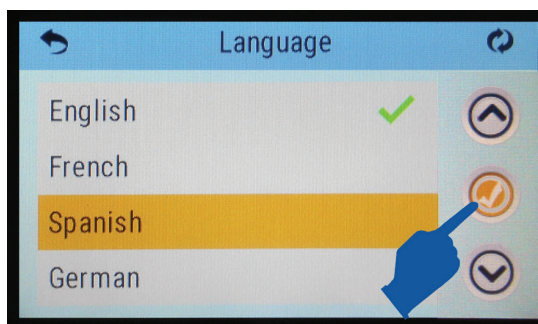
The language icon  on the setting screen takes you to the language screen. Change the language displayed on the panel.



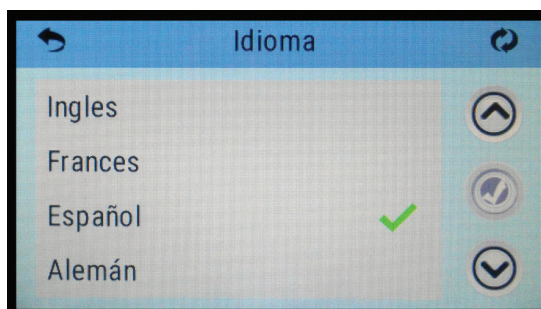
**Step 4.** As an example touch the Spanish option as shown below.



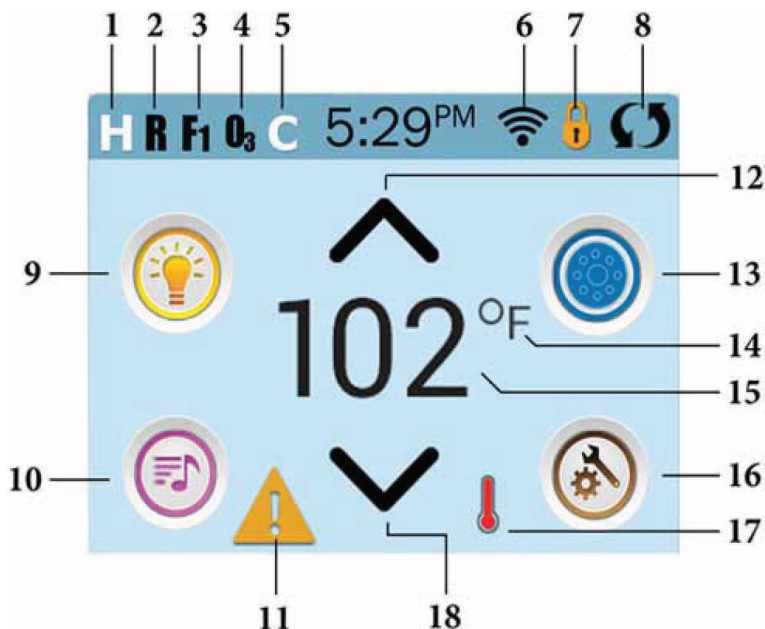
**Step 5.** Next, touch the Save Icon  on the right to confirm this selection.



**Step 6.** ...and now (as an example), the spaTouch screen will be reset to Spanish.



### 3.3 Screen Navigation and Options



Note: After 30 minutes\* the display will automatically go into sleep mode, which turns the display off. This is normal operation. Touch anywhere on the screen to wake the panel up.

#### ICON Specifications

- 1. H = High Temperature Range
- 2. R = Ready Mode
- 3. F1 = Filter Cycle 1 Running
- 4. O3 = Ozone Running
- 5. C = Cleanup Cycle
- 6. Wi-Fi Signal Indicator
- 7. Lock Indicator Icon
- 8. Invert Screen
- 9. Light Icon = Turns On/Off
- 10. Music Icon = Press To Enter Music Screen
- 11. Message Waiting Indicator
- 12. Set Temperature Up
- 13. Spa Equipment Control Icon
- 14. Temperature Scale (F/C)
- 15. Current Water Temperature
- 16. Settings Icon
- 17. Heat Indicator
- 18. Set Temperature Down

#### Navigation

Navigating the entire menu structure is done by touching the screen. The three screen selections indicated below can be selected. Touch one of these to enter a different screen with additional controls. Most menu screens time out and revert to the main screen after 30 seconds of no activity.



#### Messages

At the bottom of the screen, at certain times an indicator may appear showing that a message is waiting. Touch this indicator to go to the Message Display Screen. On that Screen some of the messages can be dismissed.





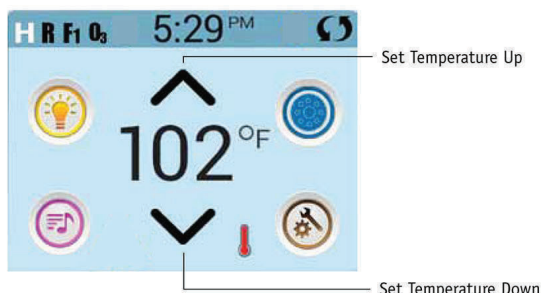
## Set Temperature

Press Up or Down once to display the Set Temperature (indicated by a flashing °F or °C, plus a change in color of the temperature). Press Up or Down again to modify the Set Temperature. The Set Temperature changes immediately.

If you need to switch between High Temperature Range and Low Temperature Range you need to go to the Settings Screen.

## Press-and-Hold

If Up or Down is pressed and held, the temperature will continue to change until you stop pressing, or until the Temperature Range limits are reached.



## All Equipment Access

The Spa Screen shows all available equipment\* to control. The display shows icons that are related to the equipment installed on a particular spa model, so this screen may change depending on the installation.

The icon buttons are used to select and control individual devices.

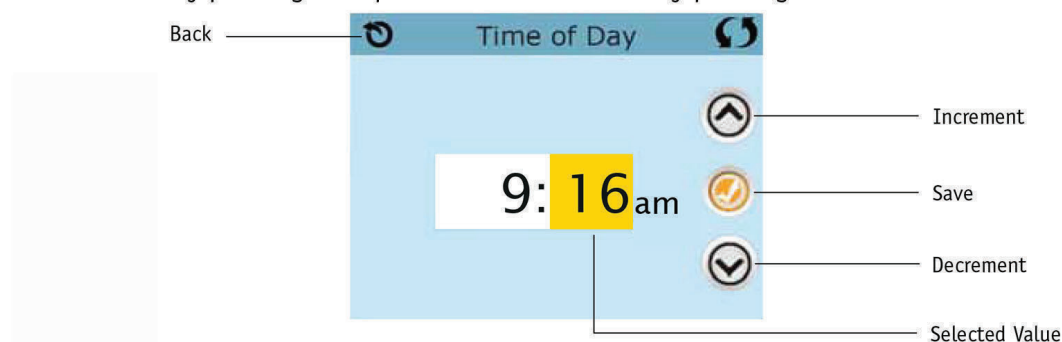
Some devices, like pumps, may have more than one ON state, so the icon will change to reflect the state of the equipment. Below are some examples of 2-speed Pump indicators.



If the Spa has a Circ Pump, a Circ Pump Icon will appear to indicate its activity, but outside of Priming Mode, the Circ Pump cannot be controlled directly.

## Values Increment/Decrement

If an Up or Down button is shown and pressed when on an editing page, and a value has been selected (highlighted), the value can be incremented by pressing the up arrow or decremented by pressing the down arrow.



## Invert

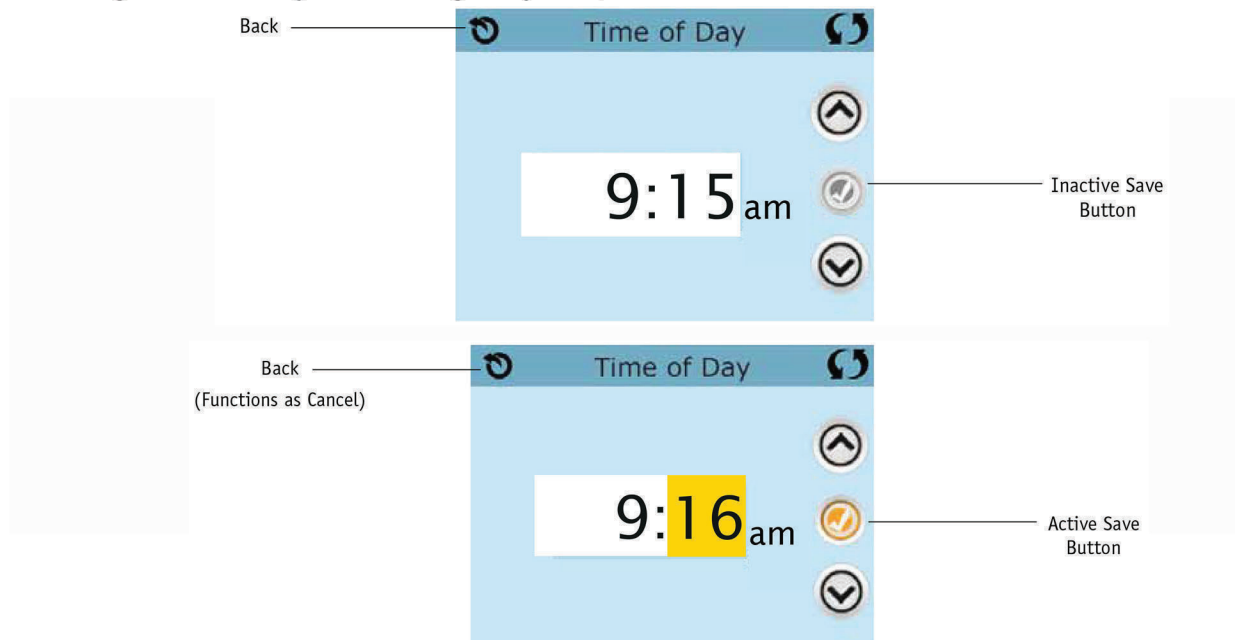
Will appear on upper right on all screens.



## Exiting Screens

The Back button is on every screen except the Main Screen, the Priming Mode Screen are a Message Display Screen.

When you see only this button, or this button plus an Inactive Save Button, it means Back or Exit. It appears on editing screens before you have changed any value, as well as on all other screens.



When you see both the Back button and an Active Save button, the Save button will Save, while the Back button will Cancel. If the screen times out due to no activity it will act like Cancel.

## Page Right/Left

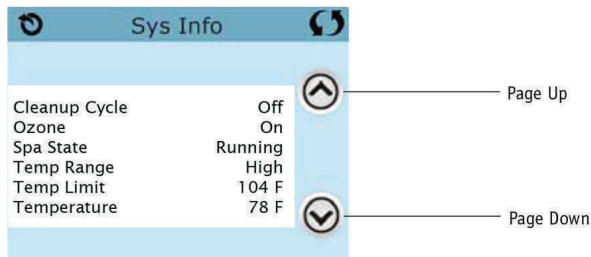
If there is a right arrow at the bottom of the screen, it takes you to the next page.

If there is a left arrow at the bottom of the screen, it takes you to the previous page.



## Page Up/Down

If an Up or Down button is shown and pressed when on a page with a text list, the list can be scrolled a page at a time.

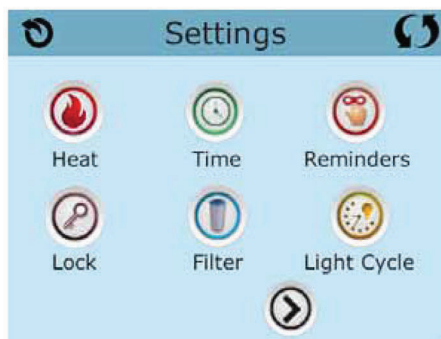





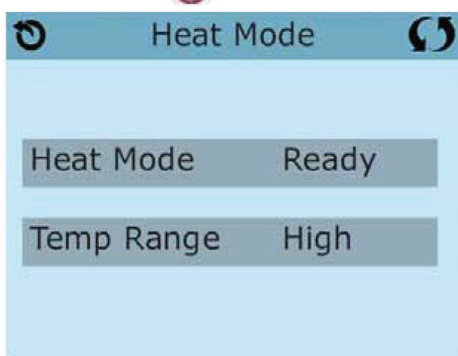
## Programming, Etc.

The Settings Screen is where all programming and other spa behaviors are controlled.

Each icon on the Settings screen takes you to a different screen, where one or more setting may be viewed and/or edited.



The Heat Icon  takes you to a screen where you control the Heat Mode and the Temperature Range.



## Dual Temperature Ranges (High vs. Low)

This system incorporates two temperature range settings with independent set temperatures. The specific range can be selected on the Settings screen and is visible on the Main Screen in the upper left corner of the display.

These ranges can be used for various reasons, with a common use being a “ready to use” setting vs. a “vacation” setting. 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.

*High Range can be set between 80°F and 104°F.*

*More specific Temp Ranges may be determined by the Manufacturer.*

*Low Range can be set between 50°F and 99°F.*

*Freeze Protection is active in either range.*

## Heat Mode – Ready vs. 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 (Pump 1) or a circulation pump.

If the heater pump is a 2-Speed Pump 1, Ready Mode will circulate water every 1/2 hour, 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.

When the heater pump has come on automatically (for example for heating) you can switch between low speed and high speed but you cannot turn the heater pump off.

### Circulation Mode (See Page 13, 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 24HR circulation mode.

## Ready-in-Rest Mode

Ready in Rest Mode appears in the display if the spa is in Rest Mode and the Jets 1 Button is pressed. When the heater pump has come on automatically (for example for heating) you can switch between low speed and high speed but you cannot turn the heater pump off. After 1 hour, the System will revert to Rest Mode. This mode can also be reset by selecting the Heat Mode line on the Screen shown here.

## Priming Mode – M019

After the initial start-up sequence, the control will enter Priming Mode and display a Priming Mode screen. Only pump icons appear on the priming mode screen. 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 selecting the “Jet” buttons. If the spa has a Circ Pump, it can be turned on and off by pressing the “Circ” button during Priming Mode.

## Exiting Priming Mode

The system will automatically enter the normal heating and filtering at the end of the priming mode, which lasts 4-5 minutes.

— — — °F      — — — °C

## Filtration and Ozone

On non-circ systems, Pump 1 low and the ozone generator will run during filtration. On circ systems, the ozone will generally run with the circ pump, but can be limited to filtration cycles. (On some circs systems, Pump 1 low will run along with the circ Pump during filtration.)

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.

A second filter cycle can be enabled as needed.

At the start of each filter cycle, the water devices like blower, mister device (if these exist) and other pumps will run briefly to purge the plumbing to maintain good water quality.

## Freeze Protection

If the temperature sensors within the heater detect a low enough temperature, then the water devices automatically activate to provide freeze protection. The water devices will run either continuously or periodically depending on conditions.


In colder climates, an optional 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.

## Be sure to set the Time-of-Day

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

The Heat Icon  on the Settings Screen takes you to a screen where you control the Time-of-Day.

On the Time-of-Day screen, simply select the Hours and Minutes. Use the Up and Down Buttons to make changes, then Save.



If no time-of-day is set in the memory an Information Screen will appear. If you exit it and Information Icon will appear at the bottom of the Main Screen, until the time-of-day has been set.




### Note:

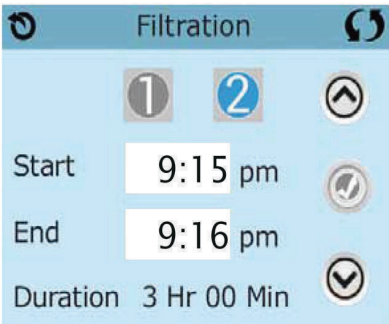
This only applies to some systems:

If power is interrupted to the system,  
Time-of-Day will be maintained for several days.

## Main Filtration

Using the same adjustment as Setting the Time, Filter Cycles are set using a start time and a duration. Each setting can be adjusted in 15-minute increments. The panel calculates the end time and displays it automatically.

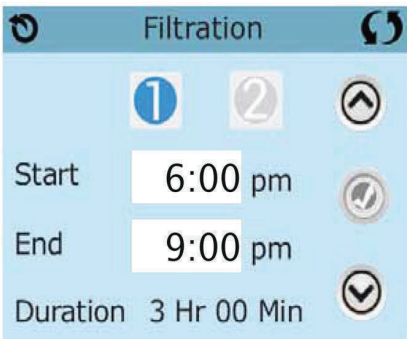
The Filter Icon  on the Settings Screen takes you to a screen where you control the Filter Cycles.



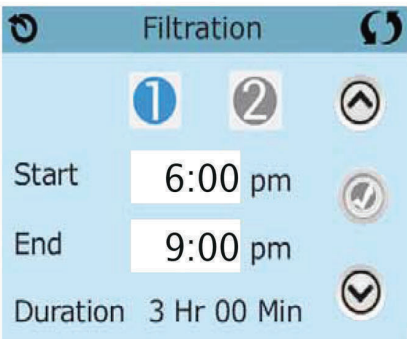
## Filter Cycle 2 - Optional Filtration

Filter Cycle 2 is OFF by default.

Viewing Filter 1 while Filter 2 is OFF:



Viewing Filter 1 while Filter 2 is ON:



Press “1” to view Filter 1. Press “2” once to view Filter 2. Press “2” again to turn Filter 2 ON or OFF.

When Filter Cycle 2 is ON, it can be adjusted in the same manner as Filter Cycle 1.

It is possible to overlap Filter Cycle 1 and Filter Cycle 2, which will shorten overall filtration by the overlap amount.

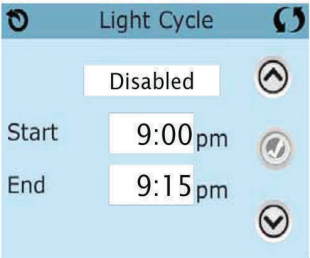
## Light Cycle Option

If Light Cycle does not appear on the Settings Screen, the Light Timer feature is not enabled by the manufacturer.

The Light Cycle Icon  on the Settings Screen takes you to a screen where you control the Light Cycle.

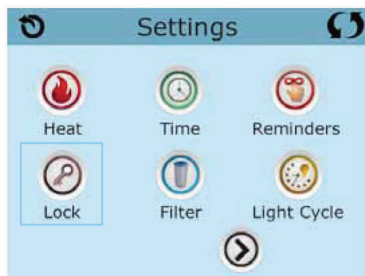
When available, the Light Timer is (“Disabled”) by default. Press “Disabled” to change it to “Enabled” (ON).

The settings can be edited the same way that Filter Cycles are edited.

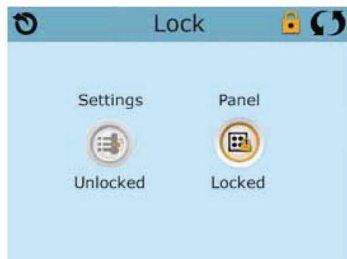




## Restricting Operation



Panel Locked and Settings Unlocked



## Locking and Unlocking



Press here for 5 seconds  
to lock or unlock.

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

Settings Lock allows access to a reduced selection of menu items. These include Filter Cycles, Invert, Information and Fault Log. They can be seen, but not changed or edited.

The same steps are used to Lock and Unlock.


To lock either Settings or Panel first select Settings (if it says "Unlocked") or Panel (if it says "Unlocked"), then press the word "Lock" for at least 5 seconds.

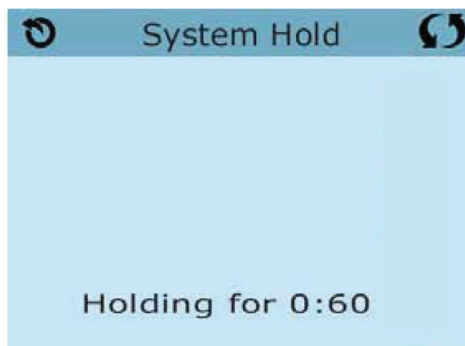
To unlock either Settings or Panel first select Settings (if it says "Locked") or Panel (if it says "Locked"), then press the word "Lock" for at least 5 seconds.



## Hold - M037

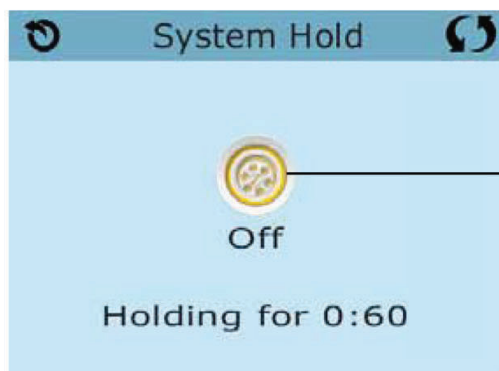
Hold Mode is used to disable the pumps during service functions like cleaning or replacing the filter. Hold Mode will last for 1 hour unless the mode is exited manually. If spa service will require more than an hour, it may be best to simply shut down power to the spa.

The Hold Icon  on the Settings Screen places the spa in Hold Mode and displays the System Hold screen. Touch Back to exit Hold Mode.



## Drain Mode

Some spas have a special feature that allows Pump 1 to be employed when draining the water. When available, this feature is a component of Hold Mode.

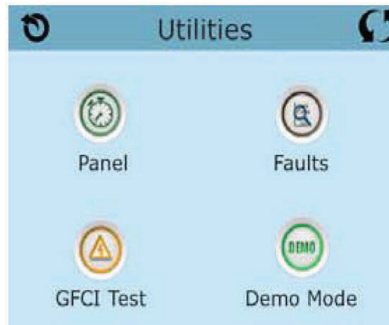


Touch this Icon to turn the Drain Pump ON or OFF.


## Utilities

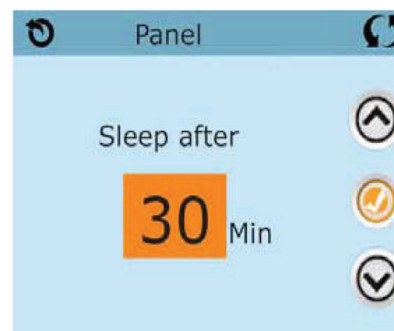
The Utilities Icon  on the Settings Screen takes you to the Utilities Screen.

The Utilities Screen contains the following:



## Panel

Touching the Panel Icon  on the Utilities Screen takes you to the Panel Screen, where you can set how long it takes the panel to go to sleep after the last activity. The Sleep Timer can be set from 1 minute to 60 minutes. The default is 30 minutes.



## 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.

## Fault Log

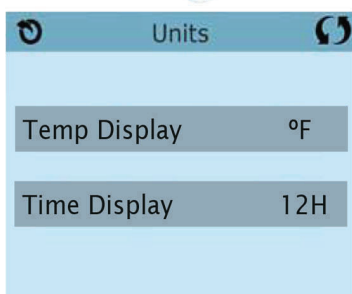
The Fault Log is a record of the last 24 faults that can be reviewed by a service tech.

Use the Up and Down buttons to view each of the Faults.

When Priming Mode shows in the Fault Log, it is not a fault. Rather, it is used to keep track of spa restarts.

## Units Screen

The Units Icon  on the Settings Screen takes you to the Units Screen.

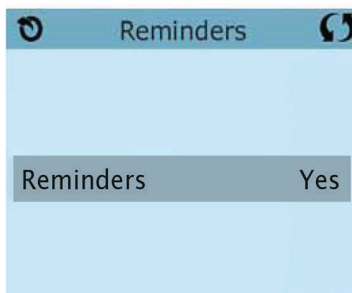


Press "Temp Display" to change the temperature between Fahrenheit and Celsius.

Press "Time Display" to change the clock between 12 hr and 24 hr display.

## Reminders

The Reminder Icon  on the Settings Screen takes you to the Reminders screen.

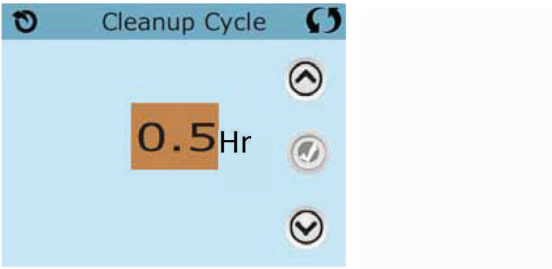


Press "Reminders" to turn the reminder messages (like "Clean Filter") ON (Yes) or OFF (No).

## Cleanup Cycle

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. Settings it to 0.0 Hr keeps the Cleanup Cycles from running.

The Cleanup Icon  on the Settings Screen takes you to the Cleanup Cycle screen.



## Language

The Language Icon  on the Settings Screen takes you to the Language screen.

Change the language displayed on the panel.

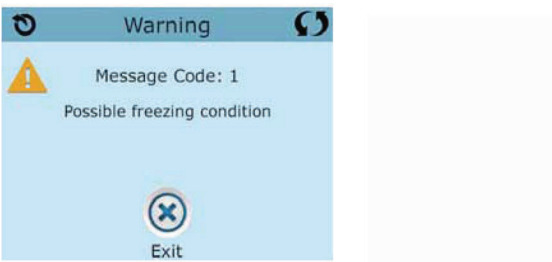


Most messages and alerts will appear at the bottom of the normally used screens. Several alerts and messages may be displayed in a sequence.

---°F    ---°C

## Water Temperature is Unknown

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



## Possible freezing condition

A potential freeze condition has been detected, or the Aux Freeze Switch has closed. All water devices are activated. 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.

## The water is too hot – M029

The system has detected a spa water temp of 110°F (43.3°C) or more, 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.

# Heater-Related Messages

## The water flow is low – 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.

## The water flow has failed\* – 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, reset the message\*.

## The heater may be dry\* – M028

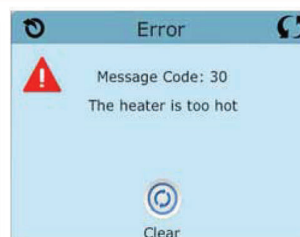
Possible dry heater, or not enough water in the heater to start it. The spa is shut down for 15 min. Reset this message\* to reset the heater start-up. See “Flow Related Checks” below.

## The 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 reset the message\* to restart heater start up. See “Flow Related Checks” below.

## The heater is too hot\* – 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 reset the message\* when water is below 108°F (42.2°C). See “Flow Related Checks” below.



## 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 by an error condition, some equipment may occasionally turn on to continue monitoring temperature or if freeze protection is needed.

\* **Some messages can be reset from the panel.** Messages that can be reset will appear with a Clear Icon at the bottom of the Message Screen. Press the Clear Icon text to reset the message.





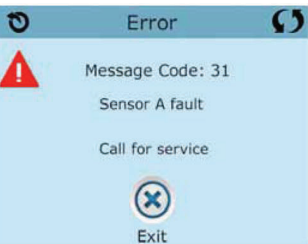
# Sensor-Related Messages

## Sensors are out of sync – M015\*\*

The temperature sensors MAY be out of sync by 3°F. Call for Service if this message does not disappear within a few minutes.

## Sensors are out of sync -- Call for service\* – M026\*\*

The temperature sensors ARE out of sync. The fault above has been established for at least 1 hour.  
Call for Service.



## Sensor A Fault, Sensor B Fault – Sensor A: M031\*\*, Sensor B: M032\*\*

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

# Miscellaneous Messages

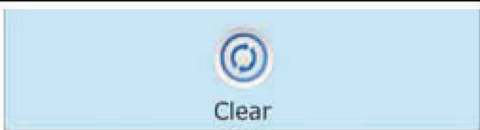
## Communications error

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

## Test software installed

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

\* **Some messages can be reset from the panel.** Messages that can be reset will appear with a Clear Icon at the bottom of the Message Screen. Press the Clear Icon text to reset the message.



\*\*MOXX is a Message Code. Codes like this will be seen in the Fault Log



# System-Related Messages

## Program memory failure\* – 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.

## The settings have been reset (Persistent Memory Error)\* – M021\*\*

Contact your dealer or service organization if this message appears on more than one power-up.

## The clock has failed\* – M020\*\*

Contact your dealer or service organization.

## Configuration error (Spa will not Start Up)

Contact your dealer or service organization.

## The GFCI test failed (System Could Not Test the GFCI) – M036\*\*

(North America Only) May indicate an unsafe installation. Contact your dealer or service organization.

## A pump may be stuck on – M034\*\*

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

## Hot fault – M035\*\*

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

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

\* ***Some messages can be reset from the panel.*** Messages that can be reset will appear with a Clear Icon at the bottom of the Message Screen. Press the Clear Icon text to reset the message.

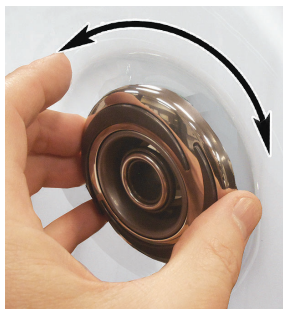


\*\*MOXX is a Message Code. Codes like this will be seen in the Fault Log

## Jets

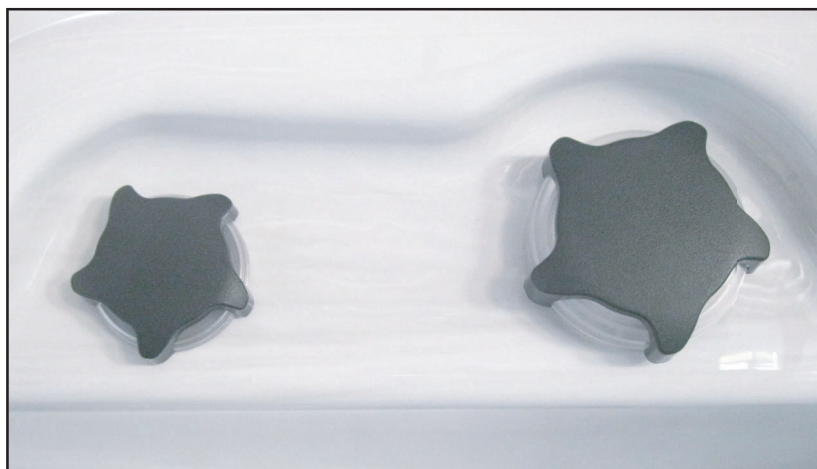
Almost all of the jets in your spa are adjustable. Rotating the face of an adjustable jet to the left (counter-clockwise) will decrease the amount of water flow through the jet. Rotating the face of an adjustable jet to the right (clockwise) will increase the amount of water flow through the jet. (See example shown below.)

Neck jets adjust in the opposite directions (counter-clockwise to increase, clockwise to decrease).



## Water Diverters

Water diverter knobs are 1" and 2" knobs located around the top of your spa. They allow you to divert water through jets from one side of the spa to the other, or from floor jets to wall jets. This is accomplished by rotating the knob to the left or right to increase or decrease the flow of water through the jets.



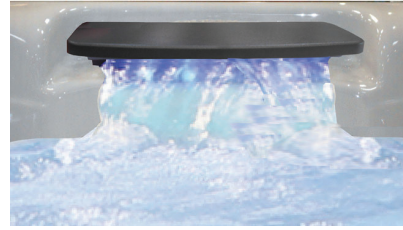
## Air Control

The air control is the 1" knob located around the top of your spa. The air control will let you add a mixture of air with the jet pressure. This is accomplished by rotating the knob to the left or right to increase or decrease the amount of airflow through the jets.



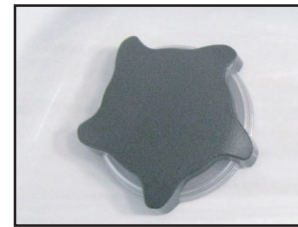
## Waterfall /Optional Item

Some spa series include a waterfall. When the booster pump is on, turn the knob.



## Hydro Streamer Waterfall /Optional Item

Pictured at the right is the 1" Starfire Valve. Using this allows for an on-off mechanism for the waterfall.



## Cover Latches

When your hot tub is not in use, make sure you place the cover on top and latch it securely. Besides protecting your hot tub from sun damage and keeping out contaminants, it will prevent small children from drowning in the hot tub.

Your cover will have four clips attached to the ends of the four latches, two on each end of the hot tub cover. There will also be a small bag with eight wood screws.

After you place the cover on the hot tub, attach the clips to the side of the hot tub using the wood screws.

This section is intended for new spa owners with no experience with water chemistry. Everyone's experience with maintaining water quality is different, but there are some general concepts you need to know.

Water maintenance is not difficult, although it requires regular attention. The most important thing to understand about taking care of your spa water is that preventive action is much easier than correcting water quality issues.

## Contents of this section:

Testing and Adjusting Spa Water  
Sanitation  
Filtration  
Bather Load  
Starting the Spa with Fresh Water  
Maintenance Schedule  
Troubleshooting Water Clarity Problems

## The Key to Clear Water

Excellent water quality is a simple matter of four things:

### Regularity

Clear water requires regular maintenance. Establish a routine based on a regular schedule for your spa water maintenance.

Maintaining your water quality helps the enjoyment of your spa and extends your spa's life by preventing damage from neglect and chemical abuse.

See page 43 for the schedule of recommended maintenance.

### Filtration

Cleaning your filter regularly is the easiest and most effective single thing you can do to keep your water clear.

A clogged or dirty filter will cause the heater and pump to work harder than they need to, possibly causing them to fail.

The spa's heating system will only function with the proper amount of water flow through the system.

See page 42 for filter cleaning instructions.

### Sanitation

Sanitizers kill bacteria and viruses and keep the water clean. A low sanitizer level will allow microbes to grow quickly in the spa water.

We recommend using either chlorine or bromine as your sanitizer.

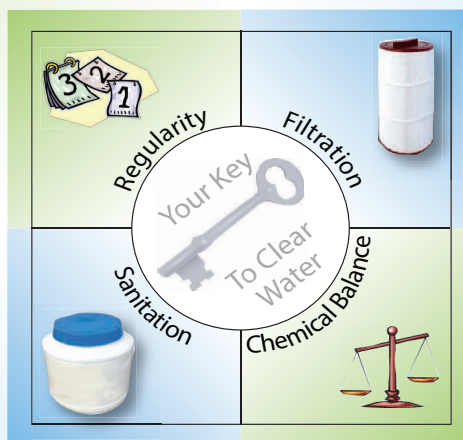
See page 41 to learn how to use sanitizer.

### Chemical Balance

You will need to test and adjust the chemical balance of your spa water. Although this is not difficult, it needs to be done regularly.

Depending on your choice of sanitizer, you need to test the level of calcium hardness, total alkalinity, and pH.

See page 40 to learn how to balance your spa water.



## Testing and Adjusting Spa Water

You have two types of testing methods to choose from:

- **The reagent test kit** is a method which provides a high level of accuracy. It is available in either liquid or tablet form.
- **Test strips** are a convenient testing method commonly used by spa owners.

### Balancing the Total Alkalinity

Total alkalinity (TA) is the measure of the total levels of carbonates, bicarbonates, hydroxides, and other alkaline substances in the water. TA can be considered a "pH buffer". It is the measure of the ability of the water to resist changes in pH level.

**The recommended total alkalinity is 80 - 120 ppm.**

If the TA is too low, the pH level will fluctuate widely from high to low. Low TA can be corrected by adding an alkalinity increaser.

If the TA is too high, the pH level will tend to be too high and may be difficult to bring down. High TA can be corrected by adding an alkalinity decreaser.

When the TA is balanced, it normally remains stable, although adding water with high or low alkalinity will raise or lower the TA level.

### Balancing the Calcium Hardness

Calcium hardness (CH) is a measure of the total amount of dissolved calcium in the water. Calcium helps control the corrosive nature of the spa's water and is why soft water is not recommended. The low calcium content of soft water is very corrosive to the equipment and can cause staining of the spa shell.

**The recommended calcium hardness is 150 - 200 ppm.**

If the CH is too low, add a calcium hardness increaser.

If the CH is too high, dilute the spa water with soft water.

When the CH is balanced, it normally remains stable, although adding soft water or very hard water will raise or lower the CH level.

### Balancing the pH

The pH level is the measure of the balance between acidity and alkalinity.

If the pH is too low, it can cause corrosion of metal fixtures and the heating element. Low pH can be corrected by adding a pH increaser.

If the pH is too high, it can cause scaling by allowing metals or minerals to form deposits and stain spa surfaces. High pH can be corrected by adding a pH decreaser.

### Ideal Water Chemistry

Testing For:	Ideal Range (ppm)	
	Minimum	Maximum
Total Alkalinity	80	120
Calcium Hardness	150	200
pH	7.2	7.6





## Sanitation

Sanitizers kill bacteria and other organic waste by breaking them down to non-harmful levels and are filtered out. Before you fill your spa, you need to decide which chemical sanitizer you wish to use. Consult your GEO Spas dealer for the right decision with regards to your lifestyle and spa usage.

We recommend either **bromine** or **chlorine** as your sanitizer. Both work well when maintained regularly.

**DO NOT use trichlor. Trichlor is very acidic and the hot temperature of the spa causes it to dissolve too quickly. It will cause damage to your spa and will void your warranty.**



Whichever plan you decide on, follow it completely and don't take shortcuts. It will provide you with clean, safe, clear spa water with a minimum of effort. Spa owners with an ozonator still need to use a chemical sanitizer. See page 42 for a description of how the ozonator works.

### Using Chlorine as a Sanitizer

If you choose to use chlorine as a sanitizer, only use granulated chlorine, not liquid chlorine.

Once a week, check the chlorine level using either a test strip or a reagent kit. See the table on the following page for the ideal range.

Add one or two tablespoons granulated chlorine to the spa water weekly. Note that chlorine dissipation rate will be faster at higher water temperatures and slower at lower temperatures.

When you add chlorine, open all of the jets and run the spa at high speed with the cover open for at least 30 minutes.

Follow the maintenance schedule on page 43.

### Using Bromine as a Sanitizer

Bromine is a very effective sanitizer that produces low chemical odors. Unlike chlorine, it can break down bacteria and other impurities to a safe level with a low burn-out rate.

Use granulated sodium bromide to establish your bromine base.

When you begin with fresh water, add 2 ounces of granulated bromide. Open all of the jets and run the spa at high speed with the cover open for at least 30 minutes.

Follow the maintenance schedule on page 43.

### Shocking the Water

In addition to using a chemical sanitizer, you will periodically need to shock the water. Shocking the water helps remove burned-out chemicals, bacteria, and other organic material from your spa's water and improves your sanitizer's effectiveness.

Do not use chlorinating shock, which will damage your spa's jets and pump seals. Only use an oxidizer shock. It can be used with either chlorine or bromine sanitizers.

Add one ounce of oxidizer shock once a week, after heavy bather loads, or if water has a strong odor.

Spa must be running with all of the jets on high for 30 minutes with the cover open. If necessary, repeat oxidizer shock in 30 minute intervals.

Testing For:	Ideal Range (ppm)	
	Minimum	Maximum
<b>Chlorine level</b>		
Without ozonator	3.0	5.0
With ozonator	2.0	4.0
<b>Bromine level</b>		
Without ozonator	6.7	11.0
With ozonator	5.7	10.0

## Bather Load

“Bather Load” is the term used to describe the number of people using a spa, combined with the length of usage, and the frequency of usage. All these factors have a great effect on the spa water. The higher the bather load, the more chemicals need to be added and a longer filtration time will be needed.

Recommendations are designed for spas with average bather load (3 to 4 people, 15 minutes of usage, three times a week at 100 degrees) If your bather load exceeds these guidelines, and you experience water quality problems, increase the amount of filtration first, (go to the next higher filtration number) then if water quality is still not adequate, consult the advice of your GEO Spas dealer for additional chemical or system recommendations. Be sure to give them your bather load information.

## Filter Cleaning

The filter is the part of your spa that removes the debris from the water and needs to be cleaned on a regular basis to maximize your spa's filtering performance and heating efficiency.

In addition to spraying off the filter weekly to remove surface debris, your filter should be deep cleaned periodically to dissolve scale and particles that get lodged deep within the filter fibers and impede the filtration process. Even if the filter looks clean, scale and particles can clog the fibers and prevent water from flowing through the filter resulting in the most common spa problem—no heat, caused by a dirty filter.

We recommend you clean your filter once a month and replace it once a year or as necessary.

**It is extremely important that you never run the spa without a filter. There is a possibility that debris may be sucked into the plumbing through the filter well.**

### Cleaning the filter

1. Remove the filter by unscrewing it and pulling it up and out.
2. Place the dirty filter into a bucket of water deep enough to cover the filter. Add 8 oz of liquid filter cleaner to the bucket of water.

**Note:** It is a good idea to keep a spare filter to use in the spa while the dirty filter is being deep cleaned. This way, you can rotate the filters and both will last longer.

3. Soak the filter for a minimum of 24 hours.
4. Spray the filter with a water hose. Spray each pleat carefully.
5. Reinstall the filter. Do not overtighten.

## Ozonator /Optional Item

The ozone generator releases ozone into the spa water. You will still need to test for chlorine or bromine and occasionally replenish it to return the sanitizer level to the baseline.

For spas without a circulation pump, pump 1 will run at low speed and the ozonator will run during filtration.

For spas with a circulation pump, the ozonator will run with the circulation pump.

The spa's control system is factory-programmed with one filter cycle that will run in the evening when energy rates are often lower. The time and duration of the filter cycle can be set according to your needs. In addition, a second filter cycle can be enabled. Filtration time may need to be increased with heavy bather load.

See instructions for setting filtration cycles on page 20.



## Maintenance Schedule

<b>Each time you refill the spa</b>	Follow the section "Filling and Powering Up Your Portable Spa" on page 8.
<b>Prior to each use</b>	Test the spa water using either test strips a reagent test kit. Adjust chemical levels as necessary.
<b>Once a week</b>	Test the spa water using either test strips a reagent test kit. Adjust chemical levels as necessary. If your water source is high in calcium, add stain and scale preventer.
<b>Once a month</b>	Deep clean your spa's filter. (Follow filter cleaning instruction at beginning of this section)
<b>Every two to four months</b>	Change the spa water. How often you change the water depends on how much you use the spa. When you change the water, you will need to: <ul style="list-style-type: none"> <li>• Clean and polish the acrylic surface (see page 49)</li> <li>• Clean and treat the spa cover and pillows (see page 49)</li> <li>• Deep clean the filter (see page 42)</li> <li>• Refill your spa (see page 8)</li> </ul>
<b>Once a year</b>	Replace filter cartridges if the pleats appear frayed.

## Troubleshooting Water Clarity Problems

Problem	Probable Causes	Possible Solutions
Cloudy Water	<ul style="list-style-type: none"> <li>Dirty filter</li> <li>Excessive oils / organic matter</li> <li>Improper sanitization</li> <li>Suspended particles / organic matter</li> <li>Overused or old water</li> </ul>	<ul style="list-style-type: none"> <li>Clean filter</li> <li>Shock spa with sanitizer</li> <li>Add sanitizer</li> <li>Adjust pH and/or alkalinity to recommended range</li> <li>Run jet pump and clean filter</li> <li>Drain and refill the spa</li> </ul>
Water Odor	<ul style="list-style-type: none"> <li>Excessive organics in water</li> <li>Improper sanitization</li> <li>Low pH</li> </ul>	<ul style="list-style-type: none"> <li>Shock spa with sanitizer</li> <li>Add sanitizer</li> <li>Adjust pH to recommended range</li> </ul>
Chlorine Odor	<ul style="list-style-type: none"> <li>Chloramine level too high</li> <li>Low pH</li> </ul>	<ul style="list-style-type: none"> <li>Shock spa with sanitizer</li> <li>Adjust pH to recommended range</li> </ul>
Musty Odor	<ul style="list-style-type: none"> <li>Bacteria or algae growth</li> </ul>	<ul style="list-style-type: none"> <li>Shock spa with sanitizer – if problem is visible or persistent, drain, clean and refill the spa</li> </ul>
Organic buildup / scum ring around spa	<ul style="list-style-type: none"> <li>Buildup of oils and dirt</li> </ul>	<ul style="list-style-type: none"> <li>Wipe off scum with clean rag – if severe, drain the spa, use a spa surface and tile cleaner to remove the scum and refill the spa</li> </ul>
Algae Growth	<ul style="list-style-type: none"> <li>High pH</li> <li>Low sanitizer level</li> </ul>	<ul style="list-style-type: none"> <li>Shock spa with sanitizer and adjust pH</li> <li>Shock spa with sanitizer and maintain sanitizer level</li> </ul>
Eye Irritation	<ul style="list-style-type: none"> <li>Low pH</li> <li>Low sanitizer level</li> </ul>	<ul style="list-style-type: none"> <li>Adjust pH</li> <li>Shock spa with sanitizer and maintain sanitizer level</li> </ul>
Skin Irritation / Rash	<ul style="list-style-type: none"> <li>Unsanitary water</li> <li>Free chlorine level above 5 ppm</li> </ul>	<ul style="list-style-type: none"> <li>Shock spa with sanitizer and maintain sanitizer level</li> <li>Allow free chlorine level to drop below 5 ppm before spa use</li> </ul>
Stains	<ul style="list-style-type: none"> <li>Total alkalinity and/or pH too low</li> <li>High iron or copper in source water</li> </ul>	<ul style="list-style-type: none"> <li>Adjust total alkalinity and/or pH</li> <li>Use a stain and scale inhibitor</li> </ul>
Scale	<ul style="list-style-type: none"> <li>High calcium content in water – total alkalinity and pH too high</li> </ul>	<ul style="list-style-type: none"> <li>Adjust total alkalinity and pH – if scale requires removal, drain the spa, scrub off the scale, refill the spa and balance the water</li> <li>Use a stain and scale inhibitor</li> </ul>





## Cleaning and Maintenance

### Removing and Reseating the Pillows

You can remove the pillows for cleaning and maintenance quickly and easily. This method works for all types of pillows.

Grab the lower edge of the pillow with both hands firmly and pull up. As you do this, the pillow inserts will pop out of the holes.

Reseat the pillows by aligning the pillow inserts with the holes and tapping the pillow hard enough to insert the pegs back into the holes.

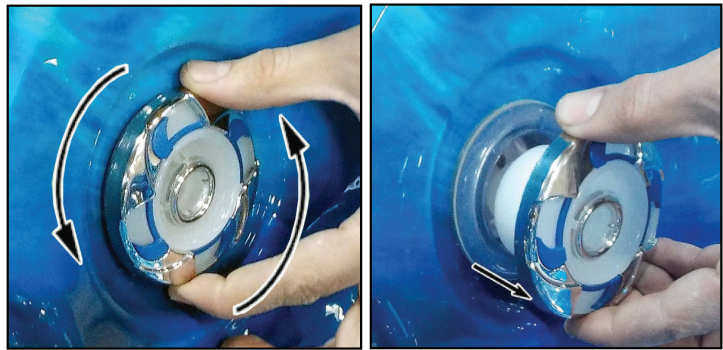


## 5.2 Jet Removal and Replacement

Jets can be easily removed for cleaning.

Grasp the outer rim of the jet and turn it counter-clockwise until it completely stops. You may feel it slightly loosen pop out a bit from the fixture. Pull the jet out from the jet fixture. The jet will be very snug and may require some force to remove it. **DO NOT PRY OUT JETS.**

To replace the jet, place it in the fitting and turn it clockwise until it snaps in and can be rotated freely about half a turn.



## 5.3 Cleaning the Hydrostreamers

To ensure proper flow through the hydrostreamers, follow this maintenance process should any jet(s) have diminished flow.

**Step 1.** Turn the jet counter-clockwise to remove the chrome jet head.



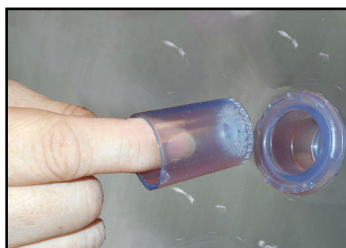
**Step 2.** Pull the chrome cap off.



**Step 3.** Pull the plastic jet opening and its gasket off.



**Step 4.(2)** The plastic filter is shown completely removed from its housing



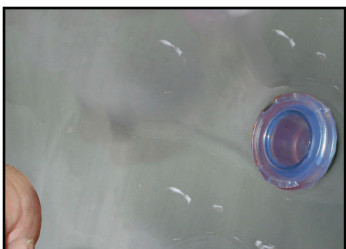
**Step 4.** Pull out the inner plastic filter.



**Step 5.** Tap the filter and/or blow out the debris to ensure all holes are clear.



**Step 6.** Slide the plastic filter back in the Jet.



**Step 7.** Re-insert the gasket into clear plastic spout.



**Step 8.** Place the gasket into the plastic spout and then insert the spout into the jet body.



**Step 9.** Insert the plastic spout into the jet body.



**Step 10.** Place the chrome ring cap back on and turn clockwise to tighten it down.





## Spa Cover and Locking System

Important! Keep the spa covered when not in use!

- Covered spas will use less electricity in maintaining your set temperature.
- Covering your spa will protect your spa's finish from the sun's ultraviolet rays.
- You are required to keep the spa covered to maintain warranty coverage.

- Covering your spa helps prevent children from drowning in the spa.

In addition, while the spa cover is rigid, it is not designed to support any weight. Therefore, as a safety precaution and to preserve the life of your cover, you must not sit, stand, or lie on it, nor should you place objects of any kind on top of it.



### IMPORTANT! LOCKING HARDWARE ENCLOSED Parts Installation Instructions:

1.- Place cover on spa. Be sure it is correctly positioned.



2.- Position the tie-down hardware (attached to the straps of your cover) on the side of the spa so they are easily reached by the cover tie-downs straps.

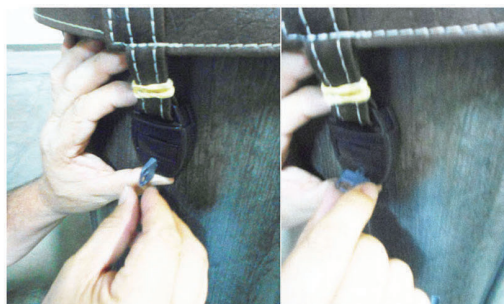


3.- With the straps pulled taut (not overly tight) mark the location for screw placement.

4.- Attach hardware with the screws provided.



5.- Keep cover fastened down at all times when not in use. Locking hardware may be locked with a key (provided).



**UNLOCKED  
POSITION**

**LOCKED  
POSITION**



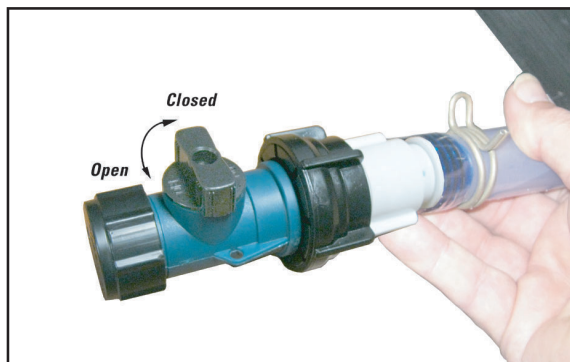
**WARNING  
AVOID  
DROWNING  
RISK**

FAILURE TO FOLLOW INSTRUCTIONS MAY RESULT IN INJURY OR DROWNING  
NON-SECURED OR IMPROPERLY SECURED COVERS ARE A HAZARD.  
REMOVE COVER COMPLETELY BEFORE ENTRY OF BATHERS.  
ENTRAPMENT POSSIBLE.  
KEEP COVER ON SPA AND LOCKED WHEN NOT IN USE



## Draining Your Portable Spa

1. Turn off the power at the breaker.
2. Remove all filters.
3. Using a Phillips screwdriver, remove the screws to the access panel and open it.



4. Locate hose ending with the  $\frac{3}{4}$  inch hose-bib fixture.
5. Unscrew the cap.
6. Hook up the female end of a garden hose to the drain fitting.
7. Place the other end of the garden hose where you would like the water to drain to.
8. Turn the valve on the hose-bib fixture to open the drain.
9. Let spa drain completely, then remove garden hose.
10. Turn the valve on the hose-bib fixture to close the drain.
11. Replace the cap.

## Winterizing (Cold Climate Draining)

In many areas of the country, the temperature drops below 32°F (0°C). We recommend that you always have your spa full of water and running at normal spa temperatures (80°F to 100°F, 26.7°C to 37.8°C). This will help reduce the risk of freezing in your spa and your spa's equipment.

**Warning: If you find the need to drain your spa, be aware of the potential of freezing in your spas equipment and plumbing. Even if the directions below are followed perfectly, there is no guarantee that your spa will not suffer freeze damage. Freeze damage is not covered by your warranty.**

1. Open all filter covers.
2. Remove the filter baskets and filters.
3. Drain your spa completely as described in the instructions above.
4. Vacuum water from the spa's main drain fitting with a wet/dry vacuum.
5. Open the bleeder valves on the pumps.
6. For spas with the UV lamp chamber mounted flat on the equipment floor:  
Loosen the quartz tube nut at the top of the UV lamp chamber and pull up the quartz tube to let the water drain from the UV lamp chamber.
7. Disconnect the unions from both sides of the pump.
8. Blow any remaining water out of the jets and equipment area with the wet/dry vacuum.
9. When it has completely finished draining, replace the quartz tube in the UV lamp chamber and retighten the nut. Close the bleeder valves and re-connect the unions on the pumps. Replace the filter baskets and filters.
10. Cover your spa with a good spa cover and an all-weather tarp to ensure that neither rain nor snow enters the spa.

## Vacation Care

You can leave your spa unattended for up to two weeks if you follow these instructions.

***ALWAYS lock your cover using the cover locks if you plan to be away from home and the spa is filled with water.***

1. Set the spa to VACATION Mode. (See instructions on page 15 for changing modes.)
2. Following the water quality instructions starting on page 39, adjust the pH.
3. Shock the water (add either chlorine or bromine sanitizer).
4. When you return, check and adjust the pH and shock the water.

If you will not be using your spa for longer than 14 days and a spa maintenance service is not available, we strongly recommend you drain or winterize your spa.

## Jet Removal and Replacement

Jets can be easily removed for cleaning.

Grasp the outer rim of the jet and turn it counter-clockwise. The jet will unscrew from the fitting until it is free.

(Shown below in the sequence from left to right is the process for removing the jet. A quarter turn counter-clockwise will turn off the jet. Another quarter-turn will allow you to pull out the jet from the spa.)

To replace the jet, place it in the fitting and turn it clockwise until it is snug in place. Do not overtighten the jet.



## Cleaning and Replacing the Filter

Filtration is one of the most important steps you can take to ensure clean, clear water. It is far less expensive to fix water clarity problems by filtering your spa than by using excessive amounts of chemicals, excessive filtration times, or by water replacement.

See the section "Clear Water Plan" for more information on cleaning your filter.

## Cleaning Your Spa

### Spa Cover and Pillows

Due to the constant punishment your spa cover and pillows receive, you should protect them by applying a vinyl and leather cleaner as part of your monthly maintenance plan. Use a product that is specifically designed to protect spa covers and pillows from chemical and ultraviolet light damage without leaving an oily residue behind that is normally associated with common automotive vinyl protectants.

**Warning: Do not** use automotive vinyl protectants on spa covers or pillows. These products are generally oil-based and will cause severe water clarity issues that are difficult to correct.

### Spa Shell

Each time you drain your spa, before you refill it you should clean your spa shell with an all-purpose cleaner and apply a coat of surface protectant.

Use a low detergent, non-abrasive cleaner specifically formulated to clean the spa without damaging its acrylic finish.

Use a non-oil based surface protectant that is specifically formulated to protect the spa's finish from the chemicals and minerals associated with normal spa use.

## Perimeter Lighting /Optional Item

### LED Lighting

Press the LIGHT button on the topside control panel to turn the spa light on. If your spa has perimeter LED lights, they will also light up at the same time as the spa light.



The LEDs operate in three modes:

1. **Cycle:** When you continually press the LIGHT button, the LEDs will cycle through the three main LED colors (Red, Green, and Blue) or combinations of the three that produce the following colors: light green, purple, light blue, yellow, etc.

Each time you press the button, you immediately advance to the next color in sequence or eventually a different light pattern.

2. **Flashing:** When you are cycling through all the colors, the next time you push the LIGHT button, the LED lights may start flashing. This is another normal operational pattern option.
3. **Fading cycle:** The next phase of operation when you push the LIGHT button is a slow and/or fast fade random transition from one color to the next.





## Replacement Parts

### Snap-in SQR Jet Inserts

**SQN halo, 2" neck jet, 100% shut-off**

**Halo w/ graphite gray center**

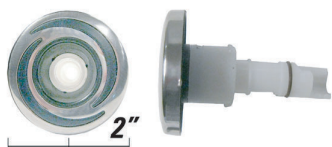
PLU29520-611-500



**SQ2D, 2" euro jet directional**

**Halo w/ graphite gray eyeball**

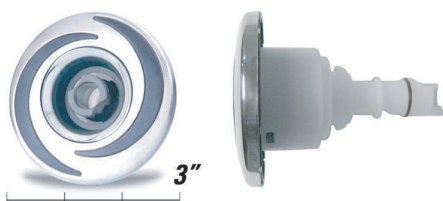
PLU29520-011-500



**SQ3D, 3" directional mini jet**

**Halo w/ graphite eyeball**

PLU29530-111-500

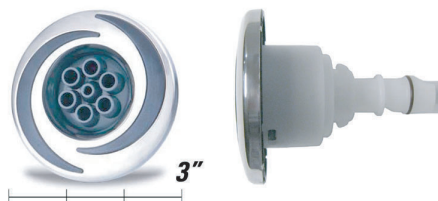


### Snap-in SQR Jet Inserts

**SQ3M halo, 3" mini massage jet**

**Halo w/ graphite center**

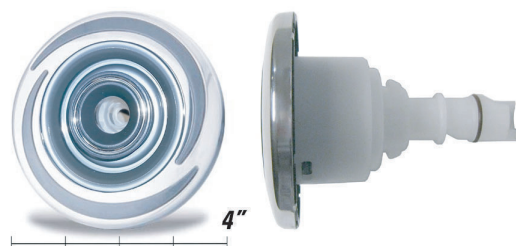
PLU29530-141-500



**SQ4D, 4" directional maxi flow jet**

**Halo w/ graphite gray eyeball**

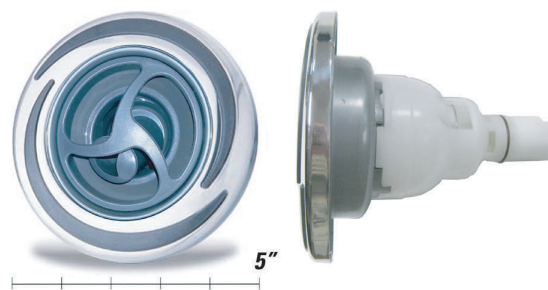
PLU29540-111-500



**SQ5R, 5" rotational jet**

**Halo w/ graphite gray eyeball**

PLU29550-081-500

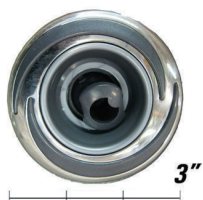


Please visit [www.quickspaparts.com](http://www.quickspaparts.com)  
to order your replacement parts.

### Snap-in SQR Jet Inserts

**Hio, Roto, 3" pro-loc**

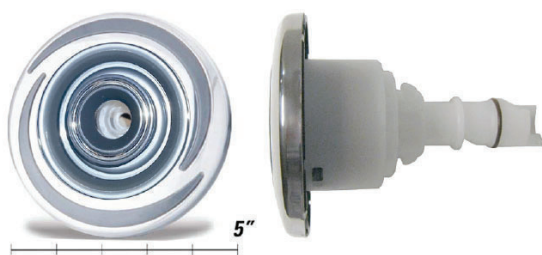
PLU29530-121-500



**SQ5D, 5" directional maxi flow jet**

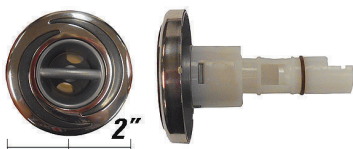
**Halo w/ graphite gray eyeball**

PLU29550-031-500



**Euro Twist, 2"**

PLU29520-021-500



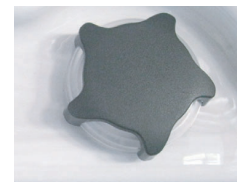
**River Jet Assembly Black with Stainless Steel Rim 210-5101SCS**  
PLU210-5101SCS



### Water Diverter Valves

**Diverter Valve 2" Star Fire, Textured Black**

PLU21300468



**Diverter Valve 1" Star Fire, Textured Black**

PLU25056-101-000



### Air Control Valve

**Air Control Valve Star Fire Black**

PLU21300526



### Filter

**Filter Cartridge Anti-bacterial - 50 sq. ft.**

FIL50-5D13H15FCT-3




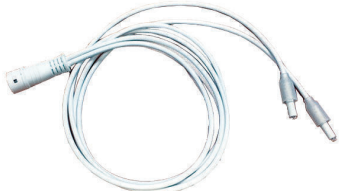

### Waterfall




**Flush Mount Water Feature Assembly (Clear)**  
PLU210-9288S



Please visit [www.quickspaparts.com](http://www.quickspaparts.com)  
to order your replacement parts.

Waterfalls /Optional	
<b>ALX Waterfall</b>	
PLU21801050	

LED Lights /Optional	
<b>1-LED light string</b>	
LIT16100330	
<b>2-LED light string</b>	
LIT16100331	
<b>4-LED light string</b>	
LIT16100332	

LED Lights /Optional	
<b>1 to 3 ext. cord</b>	
LIT16100335	
<b>Interior light with logic (7 LED)</b>	
LIT16100333	Standard
<b>Main light housing, LED lens, fitting nut</b>	
LIT16100336	Standard

Please visit [www.quickspaparts.com](http://www.quickspaparts.com) to order your replacement parts.

### Replacement Cabinet Panels

The complete selection of replacement cabinets for all models is very extensive and too lengthy for this owner's manual. To order replacement panels for your spa, visit [www.quickspaparts.com](http://www.quickspaparts.com).

### Covers

All spa covers are designed with a tapered height, angling downward from the center to the sides to drive off rain and prevent water from pooling.

#### Basic

4" - 2.5"

1.0 Lb. foam



The covers listed below are filled with 1 lb. foam.

Size	Fits spa models	Type	Part numbers
84" x 84"	GEO-760L, GEO-760B GEO-734L GEO-734B	Basic	Slate COV8484B42B-5
93" x 93"	GEO-860L, GEO-861B	Basic	Slate COV9393B42B-5





Please visit [www.quickspaparts.com](http://www.quickspaparts.com)  
to order your replacement parts.

### Cover Lock and Keys



ACC01800026

### Pillows

#### GEO Recess Pillow - Black



ACC01401031

## Troubleshooting

Symptom	Possible Causes	Possible Solutions
<b>System / Power Problems</b>		
<b>System does not work</b>	Power is turned off	Reset spa
<b>Control pad and spa equipment do not operate</b>	No electrical power to spa	Turn on or reset the GFCI circuit breaker. If this does not solve the problem, have a qualified electrician check the electrical service.
	The 20 or 30A fuse, depending on the system, has blown	Contact your dealer
<b>The spa does not turn off</b>	Spa is trying to heat up	Check the temperature setting is in Standard mode
	Spa is in filter cycle	Normal. No adjustment necessary
	Spa is in Standard mode	Check setting
<b>Control panel displays a message</b>	An error may have occurred	See Diagnostic Messages for message code meanings
<b>GFCI breaker trips repeatedly</b>	Improper wiring to spa or GFCI breaker is defective	Consult with a qualified electrician
	There is a defective component on the spa	Contact your dealer
<b>Heat Problems</b>		
<b>Spa does not heat</b>	Heating mode not selected	See control panel instructions on page 15
	Water level is too low	Add water to correct level
	No electrical power to spa	Turn on or reset the GFCI circuit breaker. If this does not solve the problem, have a qualified electrician check the electrical service.
	Heater is defective	Contact your dealer
	Gate valve is partially or fully closed	Open gate valves. Note: Never operate your spa with the gate valves closed!
<b>Spa gets warm but does not get hot</b>	Thermostat has been turned down	Set control panel to a higher temperature
	Insufficient filtration time	Increase filtration time
	Water level is too low	Add water to correct level
	No electrical power to spa	Turn on or reset the GFCI circuit breaker. If this does not solve the problem, have a qualified electrician check the electrical service.
	Dirty filter cartridge	Clean filter cartridge
	Gate valves closed	Open gate valves
	Spa cover improperly positioned	Align spa cover
	Filtration time is set too long	Reduce filtration cycles, especially during summer months
<b>Spa gets too hot</b>		



Symptom	Possible Causes	Possible Solutions
<b>Water Problems</b>		
<b>Water is not clean</b>	For all water clarity problems, see page 39.	
<b>High water consumption</b>	Very high evaporation or heavy splashing	Use the cover and refill as necessary
<b>Low water stream from the jets</b>	Running in FILTER mode - slow speed	Select high speed jets
	Block wall suctions or skimmer	Clean the wall suction/skimmer. Remove blockage
	Dirty filter	Clean filter and replace
	Jets are closed	Open jets
	Valves closed	Open valves
<b>No water stream from the jets</b>	Pump has airlock	Remove airlock by priming spa (page 13)
	Jets are closed	Open jets
	Power switched off, system off	Reset power
	Pump is defective	Contact your dealer
	Pump fluctuations	Low water. Check level on skimmer flap
<b>Water leakage from below the spa</b>	Check the connections and empty the hoses	Close or turn off empty cycle if necessary
<b>Water Pressure Problems</b>		
<b>Jets surge on and off</b>	Water level is too low	Add water to normal level
<b>Jets are weaker than normal or do not work at all</b>	Jet valves are partially or fully closed	Open jet valves
	Filter cartridge is dirty	See Cleaning the Filter
	Air is trapped in the pump	Open the air bleed valve on each pump's housing and allow air to bleed out of the system. Be sure to tighten each air bleed valve as soon as water starts to flow.
	The suction fittings are blocked	Remove any debris that may be blocking the suction fittings
	Gate valve is closed	Open gate valves. Note: Never operate your spa with the gate valves closed!
<b>Air and Jets Problems</b>		
<b>No airstream from the jets</b>	Air control not open	Open the control
	Jet spout opening not fixed properly	Check jet spout openings
	Jet spout opening missing	Check jets and replace as necessary
<b>Light Problems</b>		
<b>Standard spa light does not work</b>	Light bulb has burned out	Replace light bulb
	Lighting system is defective	Contact your dealer

Symptom	Possible Causes	Possible Solutions
<b>Pump Problems</b>		
<b>Pump runs constantly – will not shut off</b>	Problem with circuit board	Contact your dealer
<b>Noisy pump</b>	Water level is too low	Add water to normal level
	Block wall suction or skimmer	Clean the wall suction/skimmer
	Damaged or worn-out motor block	Contact your dealer
	Clogged floor suction or skimmer	Clean floor suction or skimmer
	Leakage of air into suction line	Contact your dealer
	Debris is inside pump	Contact your dealer
	Gate valves are closed	Open gate valves. Note: Never operate your spa with the gate valves closed!
	Damaged or worn motor bearings	Contact your dealer
	Improper or defective wiring	Contact your dealer
<b>Pump turns off during operation</b>	Automatic timer has completed its cycle	Start the cycle again
	Pump has overheated due to the vents on the equipment door being blocked	Clear items away from vents
	The pump motor is defective	Contact your dealer
<b>Pump has a burning smell while running</b>	Damaged or worn motor bearings	Contact your dealer
<b>Pump does not work</b>	Power may be turned off	Reset power
	Pump has over heated	Let cool for one hour
	Incorrect or faulty wiring of electrical supply	Contact your dealer
	Switch is off	Auto reset after the motor has cooled down
	House circuit breaker tripped or in OFF position	Reset circuit breaker Contact your dealer
	Motor overload condition	Motor overload will reset automatically. If problem persists, contact your dealer
	Damaged electrical cord	Contact your dealer
	Pump cord not plugged in	Plug pump cord into red receptacle
	GFCI tripped or in OFF position	Reset GFCI

## "Thermal Creep"

GEO Spas are designed with energy-efficient components and systems that are meant to sustain heat generated by the equipment, which is then cycled back into the spa water. In hot weather or in situations where the spa is set to extended run times, Thermal Creep may occur. Thermal Creep is a condition where the measured water temperature can be higher than the set temperature. To manage Thermal Creep you may:

**Vent your cover.** This means placing a folded cloth about ¾" (2cm) thick under all four corners of the cover before you lock the cover down.

**Open your cover.** Opening the cover at night will also quickly cool the water down if desired.

**Open all air controls.** Set your filtration cycles to run during the cooler times of the day or night.

**Reduce the length of your filter cycles.**

**Visit your local dealer for additional guidance.**

Since Thermal Creep only occurs in well-insulated hot tubs, it is not indicative of something that is wrong with your spa or its equipment.



# LIMITED WARRANTY



This limited warranty is extended to the original purchaser of a GEO™ manufactured after January 1, 2023 and installed for residential use. This limited warranty is only valid on portable spas delivered in the United States and Canada.

## 10

### **10 Years Shell Structural**

GEO Spas are warrantied against water loss due to defects in the spa shell.

## 5

### **5 Years Shell Finish**

GEO Spas are warrantied against blistering, cracking, or delaminating of the interior surface of the spa shell.

## 2

### **2 Years Equipment and Controls**

GEO Spa electrical equipment components – specifically limited to the pumps and control system – are warrantied against malfunctions due to defects in workmanship or materials.

## 2

### **2 Years Plumbing**

GEO spas are warrantied against leaks due to defects in workmanship or materials.

## 1

### **1 Year Cabinet - Synthetic or fiberglass**

GEO spa cabinets have a lifetime guarantee against defects in workmanship or materials. Normal wear and weathering of the finish will occur naturally over time and are not defects.

## 2

### **2 Years Labor**

GEO Spa warranty covers cost of service and repair while spa is under warranty.

## **Warranties for Other Components**

The fuses, headrests, cabinet finish, and filters are warrantied to be free of defects in workmanship and material at the time of delivery. The factory-installed water purification system is warrantied against malfunction due to defects in workmanship or material for one year from the original date of delivery. All other factory-installed components not mentioned specifically, including, but not limited to the wood frame, jets, diverter valves, LED lighting systems, filter lids, and mechanical components, are warrantied against malfunction due to defects in workmanship and material for two years from the original date of delivery. This warranty provides coverage for the insulating spa cover to be free of defects in workmanship and material for 90 days.

## **Genuine GEO Spas Parts & Accessories**

This Limited Warranty is void if GEO Spas (the "Manufacturer") or its designated representative determines that the spa has been subjected to damage or failure due to installation of aftermarket parts that are not genuine GEO Spas branded parts and accessories. This disclaimer includes, but is not limited to filters, ozone systems, repair parts and other accessories. Genuine GEO Spas brand parts and accessories are built to our highest standards of quality, durability and performance, and they are designed to work with your Spa to ensure optimal performance and function.

## **Performance**

This warranty begins on the date of delivery of the spa, but in no event later than one year from the date of manufacture. To obtain service in the event of a defect covered by this Limited Warranty, notify



GEO Spas (the "Manufacturer") as soon as possible and use all reasonable means to protect the spa from further damage. Upon proof of purchase, a designated service representative will correct the defect subject to the terms and conditions contained in this Limited Warranty. There will be no charge for labor to repair the defect for one year, although providing access to affect the repair is your responsibility as the spa owner. Freight charges for replacement parts is the responsibility of the spa owner. You may be assessed reasonable repairman travel mileage charges. In the event that the spa is removed to a repair facility for repair and reinstalled, the cost of removal and reinstallation will be your responsibility as the spa owner. If the Manufacturer determines that repair of the covered defect is not feasible, it reserves the right to provide a replacement spa of equal value to the original purchase price. In such an event, reasonable costs for removal of the original spa, shipping costs from the factory for the replacement spa and delivery and installation of the replacement will be your responsibility as the spa owner. The replacement spa will carry the balance of the original spa's warranty. This warranty ends either by specified time frame, owner-transfer, relocation, or installation of any component other than by manufacturer.

### Warranty Limitations

This Limited Warranty is void if: GEO Spas (the "Manufacturer") or its designated representative determines that the spa has been subjected to alteration, neglect, misuse or abuse, or freight damage caused by the common carrier; any repairs have been attempted by anyone other than a designated representative; or if the failure is caused by accident, acts of God or other causes beyond the control of the Manufacturer. Neglect, misuse and abuse include any installation, operation or maintenance of the spa other than in accordance with the instructions contained in the owner's manual provided with the spa, including but not limited to the failure to maintain proper water chemistry and chemical balance and the use of abrasive or improper cleaners or non-genuine parts and accessories. This Limited Warranty does not provide coverage for any item attached to or installed on the spa after the date of manufacture, or for gaining access to any component for repair or replacement. Spa units in commercial use are excluded from any coverage whatsoever. The spa owner accepts liability for repair work performed by anyone other than the Manufacturer or a designated GEO Spa representative. This Limited Warranty is void if damage occurs to the spa shell because of excessive heat buildup due to failure to cover a spa that is empty of water while exposed to direct sunlight.

### Proration of Warranty

Units determined by the Company to be non-repairable will be replaced on a prorated basis with the same or a comparable unit. The user will be charged one percent of the current retail cost for each full month of ownership from the date of purchase through the date failure is determined to be non-repairable. This charge will be waived during the first twelve months of ownership.

### Limitations

The Manufacturer disclaims all warranties, expressed or implied, in fact or in law, to the extent allowed by your State's Law, including the warranty of merchantability and fitness for use, except as stated specifically herein. All warranty service must be performed by the Manufacturer or its designated representative using authorized GEO Spa parts. No agent, dealer, distributor, service company or other party is authorized to change, modify or extend the terms of this limited warranty in any manner whatsoever. The Manufacturer will not be responsible for any statements or representations made in any form that go beyond, are broader than, or are inconsistent with any authorized literature or specifications furnished by GEO Spas.

### Disclaimers

The Manufacturer and its representatives shall not be liable for any injury, loss, cost or other damage, whether incidental or consequential, arising out of any defect covered by this limited warranty, including without limitation, loss of use of the spa and cost for removal of defective product even if the Manufacturer was advised of the possibility of damage. The liability of the Manufacturer under this limited warranty, if any, shall not exceed the original amount paid for the defective product. Coverage under this limited warranty shall commence as of the original date of delivery and the duration of such coverage shall not extend for any reason whatsoever beyond the stated time periods. These disclaimers shall be equally applicable to any service provided by the Manufacturer and its designated representatives.

### Legal Rights

This Limited Warranty gives you specific legal rights. You may also have other rights that vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.



## Locating the Product Serial Number

The serial number of your spa is located on a metal plate attached to the lower right side panel of the spa. You will need this number to properly register your spa and activate coverage. Write this information in the space provided below.

Spa Model: \_\_\_\_\_

Spa Serial Number: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Date Installed: \_\_\_\_\_

Dealer's Phone Number: \_\_\_\_\_

Dealer's Address: \_\_\_\_\_

## Removing the Support Block

There is a 2" x 2" wooden support block attached to the frame of your hot tub. It is necessary during ship to keep the hot tub stable while it is on the pallet. When your hot tub is on the ground and placed on its foundation, the support may be removed. Use a ratchet and socket to remove the four bolts that attach the block to the frame.

