CRYSTAL COVESPAS™

2024 OWNER'S **MANUAL**

LTR.2024.1001

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Important Safety Instructions

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 unconsciousnessand 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 3-4" Inch concrete slab
	Install dedicated electrical supply
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.

Clearance for Service Access

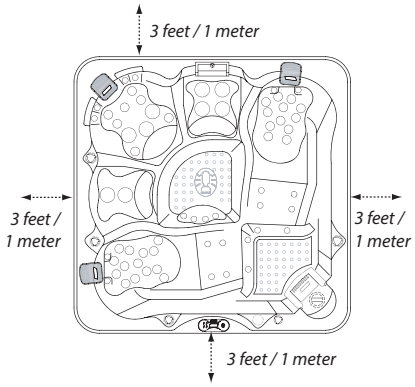
While you are planning where to locate your spa, you need to determine how much access you will need for service.

All spa models require a minimum of three feet / one meter access to all sides of the spa for potential 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.

Spa models require access to all sides in case they need service or repair. See the figure below.

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

Spas require clearance on all sides of the spa.



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.

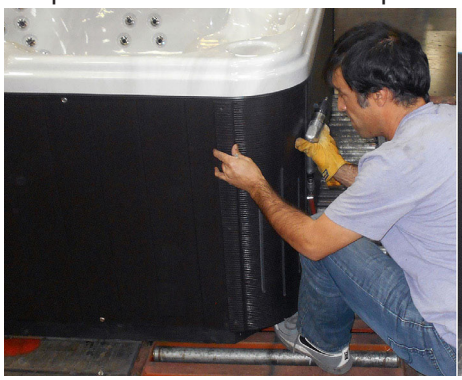
If you are installing your spa on an elevated wood deck or other structure, it is highly recommended that you consult a structural engineer or contractor to ensure the structure will support the weight of 150 pounds per square foot (732 kg / m2).

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.

CRYSTAL COVESPAS™

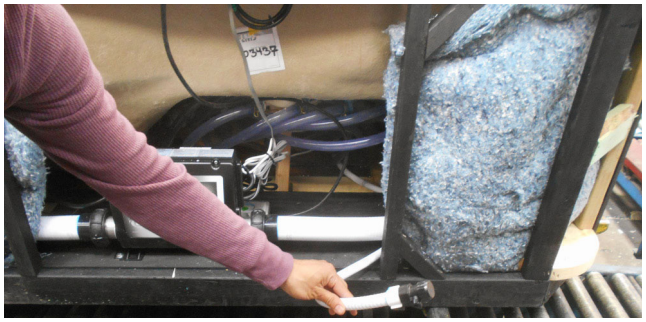
Opening the Front Door Panel for Electrical Hookup

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.



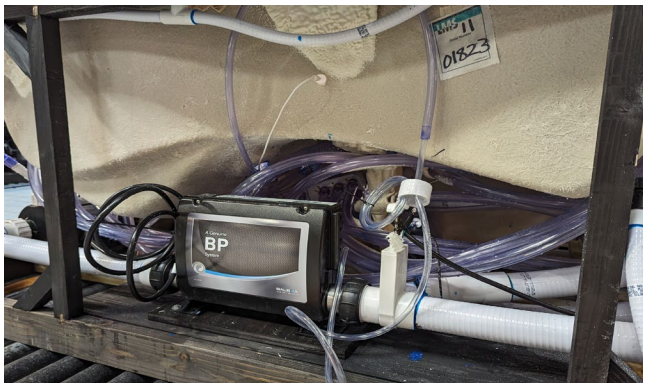
Remove the front door panel.

Note that the drain pipe is internal to the cabinet.

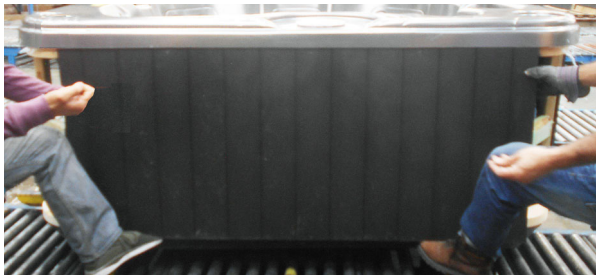


Pictured in to the right is the inside of the spa behind the front panel. The electrician now will have access to connect the spa to the GFCI. The electrician can refer to page 9 as a reference.

It is recommended to inspect the plumbing fittings plumbed through the control box to ensure all pieces are fully threaded in. unions can loosen up due to vibrations in transit.



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.

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.

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.

GFCI and Wiring Requirements

One and two pump systems use a Balboa BP501G1 control pack, with adjusted factory settings for proper operation if an additonal circulation pump is equipped

This control box requires a 40 Amp GFCI for single pump systems, and a 50 Amp GFCI for spas with two primary pumps. Both require four #6 AWG copper wires.

120 Volt Electrical Installation

Always follow applicable local, state and federal codes and guidelines.

Use only a dedicated electrical line with a 15 amp breaker.

Cord-and-plug connections may not use a cord longer than 15 feet (4.6 m) and must be plugged into a dedicated 15 amp GFCI connection (NEC 680.42(A)(2)). Do not use extension cords!

Always use a weatherproof-covered receptacle.

Receptacle shall be located not less than 5 feet (1.5 m) from and not exceeding 10 feet (3.0 m) from the inside wall of the spa. (NEC 680.43(A))

Do not bury the power cord. If your cord becomes damaged, replace it before next usage.

All 120V spas must have a GFCI. This can be either a 15 amp GFCI receptacle or a 15 amp GFCI cord and plug kit

Testing the GFCI

Test the GFCI plug prior to first use and periodically when the spa is powered.

1. Plug in the GFCI into the power outlet. The indicator should turn on.
2. Press the TEST button. The GFCI will trip, the indicator will turn off, and the spa will stop operating.
3. Press the RESET button. The GFCI will reset, the indicator will turn on again, and the spa will turn back on.

The spa is now safe to use.

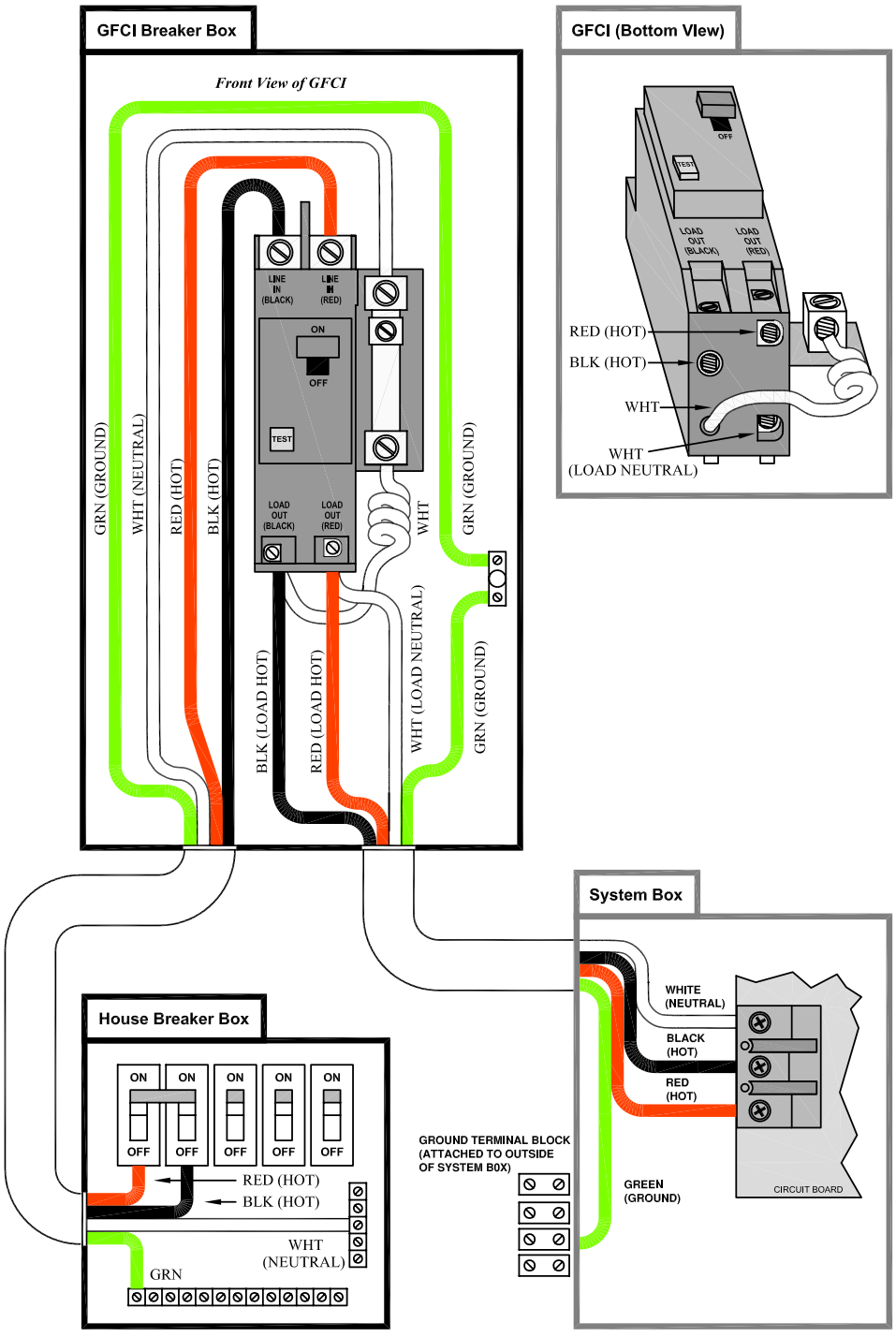
If the GFCI trips while the spa is in use, press the RESET button. If the GFCI does not reset, unplug the spa and call your local dealer for service.
DO NOT USE THE SPA.

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.

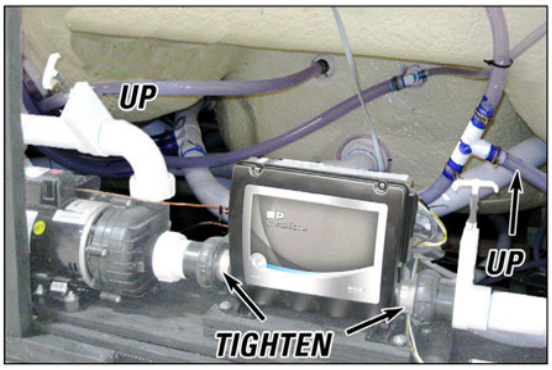
GFCI Wiring Diagram (Balboa)

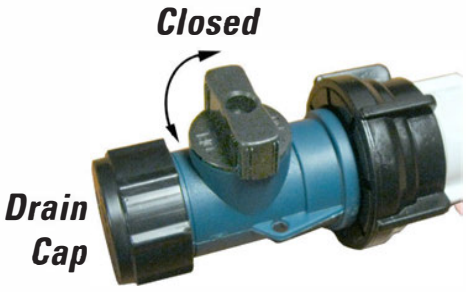


Step 1. Inspect the spa equipment.

Inspect all plumbing connections in the equipment area of your spa.

- Make Sure unions in the equipment pack are tight. (Be careful not to over-tighten the plumbing fittings.)
- If your spa has gate valves, make sure they are all in the UP or OPEN position.
- Make sure the drain valve is closed and capped.





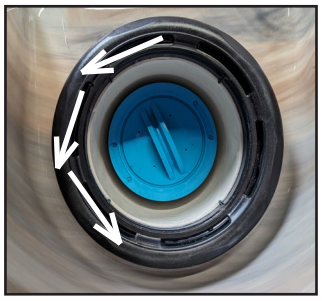
NOTE: Never run the spa with the gate valves closed or without water circulating for long periods of time.

Step 2. Remove the cartridge from the filter canister.

Unscrew the cartridge and remove it.

If you have a skimmer like this:
Grip the filter by the handle and unscrew it from the canister. Never try to pull the filter cartridge while the spa is running in low or high speed (i.e., any speed).

If you have a skimmer like this:
Remove the black skimmer cap and barrel, grip the filter by the handle and unscrew it from the canister.



Note: Turn the filter counterclockwise to loosen up,

DO NOT OVER-TIGHTEN: Damage to Filter canister may occur

Teleweir filter skimmer
- 50 square feet filtration
- Spoked cap

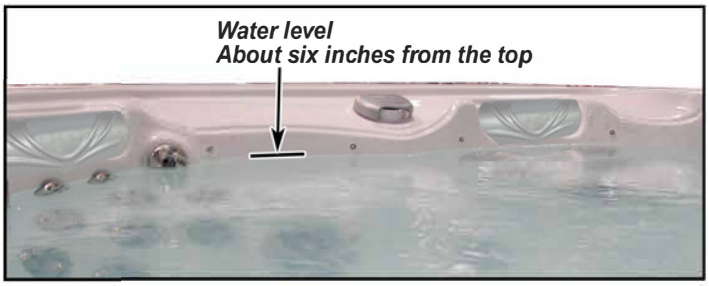
If you have a skimmer like this:
Rotate and remove the black locking ring. Remove the black skimmer cap and barrel, grip the filter by the handle and unscrew it from the canister.
Replace and lock the locking ring and slide the skimmer cap and barrel back in the canister.

Note: The skimmer cap and barrel were locked in place at the factory to prevent damage during shipment. It must be unlocked and replaced in the filter canister so that it can float when the spa is filled. If you do not remove the cap and barrel, your spa's filtration system will not perform as it was designed to.

NOTE: 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).

Step 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.



NOTE: 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 fill your spa with well water provided the following conditions are met:
1. Purchase and use a pre-filter to run the well water 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

Step 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.)

Step 5. Prime the pump.

The system will enter the priming mode. **Priming Mode** will display on the control panel. In Priming Mode, all devices such as jets and lights are operable. Jets can be turned on and off to help prime the pump. The system will exit Priming Mode and go to the Main display when the RETURN button is pressed, or after four minutes of inactivity.

Step 6. Install the filter into the filter canister.

NOTE: 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.

Step 7. Adjust water chemistry.

Test and adjust the water chemistry.

Step 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 temp.

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.

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

Starting up: Priming Mode

The system will enter the priming mode. **Priming Mode** will display on the control panel. In Priming Mode, all devices such as jets and lights are operable. Jets can be turned on and off to help prime the pump. The system will exit Priming Mode and go to the Main display when the Temperature button is pressed, or after four minutes of inactivity.

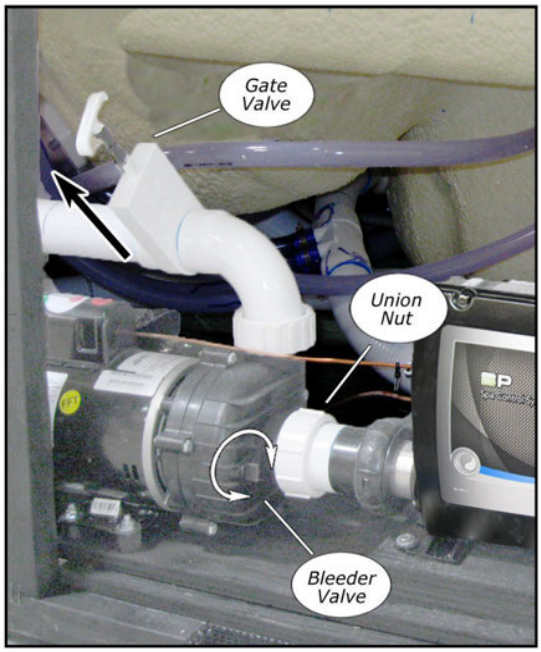
Exiting of Priming Mode

You can manually exit Priming Mode by pressing the any of the temperature buttons.

Bleeding Air from the Pump

If you have tried priming the pump several times unsuccessfully using the control panel, you can bleed the air from the pump manually.

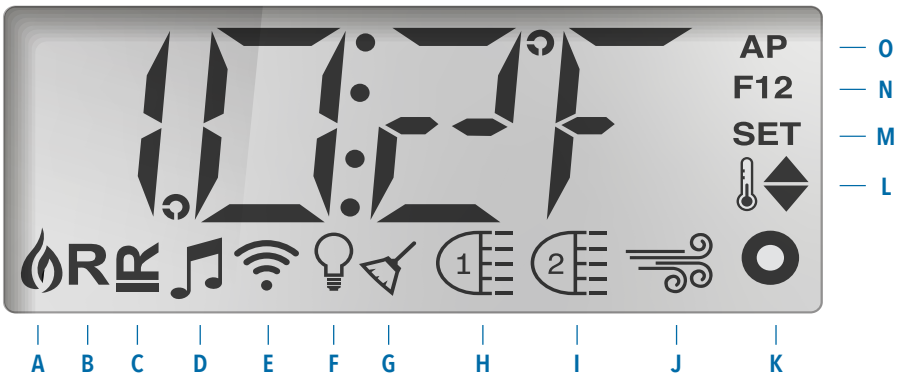
1. Shut off power to the spa.
2. Using a Phillips head screwdriver, remove the front panel from the spa and locate the pump.
3. Close the gate valve on the discharge side of the pump (if your spa is installed with one.)
4. Turn the bleeder valve counter clockwise with a small pair of pliers until the air has been released from the pump.
5. If this is unsuccessful, loosen the Union nut on the side of the pump with channel locks. When air is bled out tighten the nut.
6. Turn on power to the spa and press the JETS button If there is still air trapped in the pump, repeat steps 2 through 5 until the pump primes.



Your Crystal Cove spa is equipped with a standard button controller, this controller is used for both single pump spas and dual pump spas.

* If the model owned is a HPS745L, HPS745B, HPS756L or the HPS756B the "Aux" button will start the secondary pump.

Display Icon Legend



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

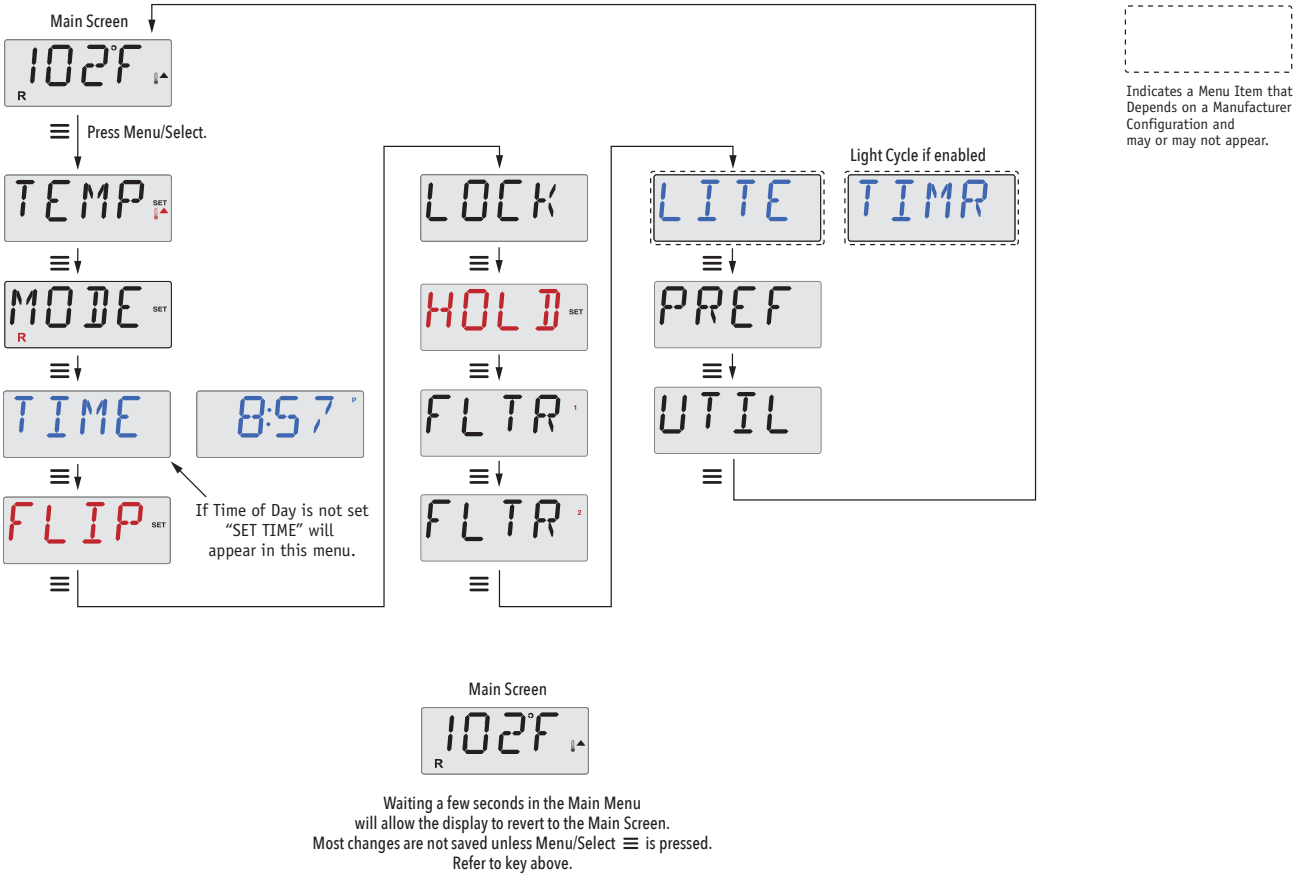
Menu Navigation

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.



Inital Power Up

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 starts 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.

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 Manufactu

Freeze Protection is active in either range.

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.
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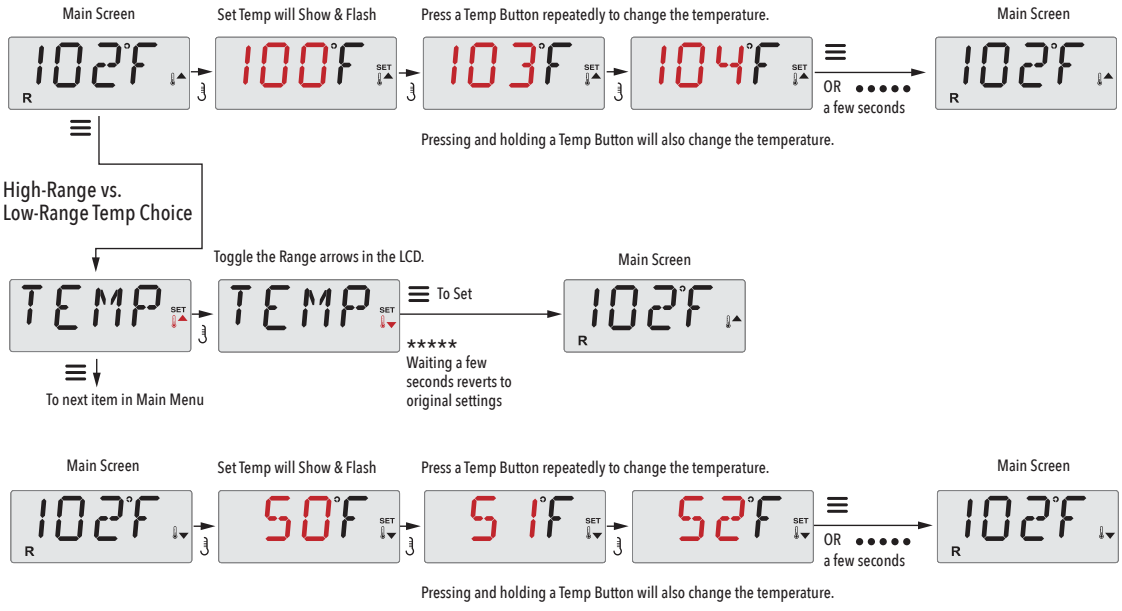


Heat Modes, Ready & Rest

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."

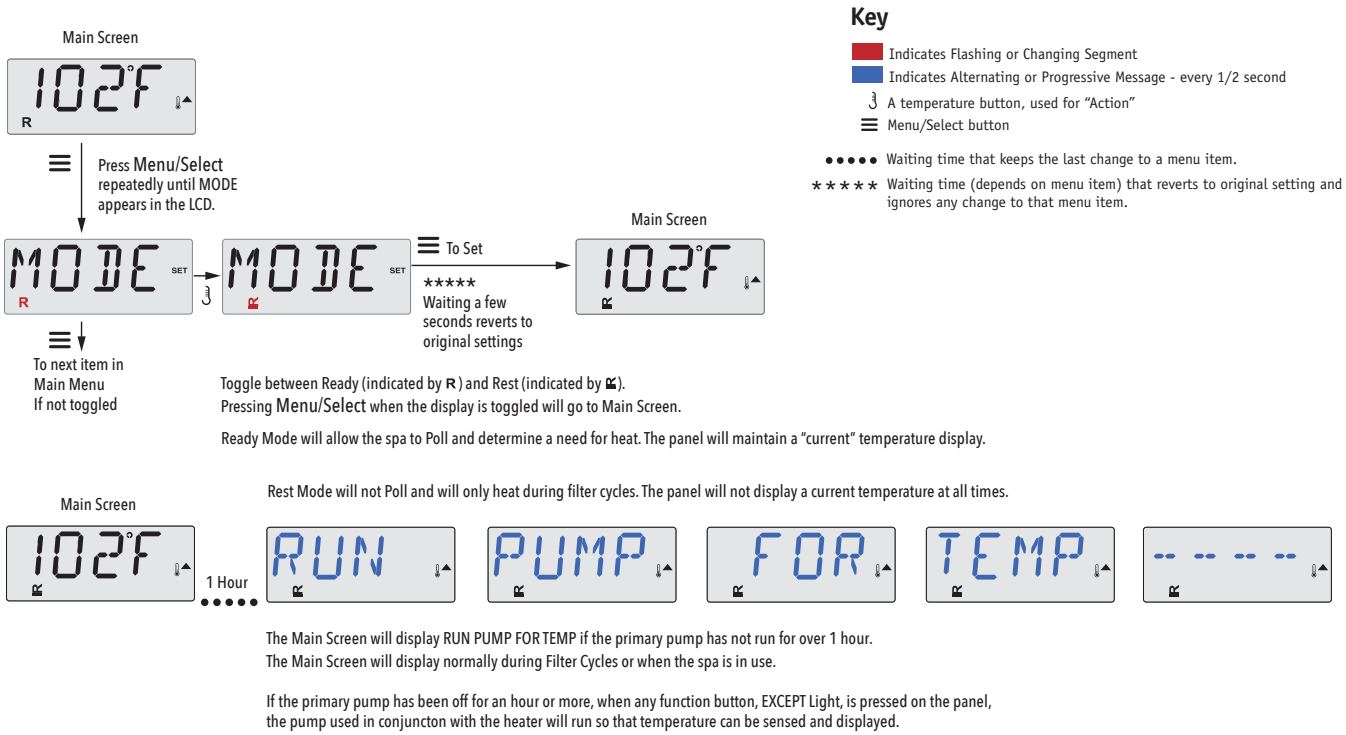
The primary pump can be either a 2-Speed Pump 1 or a circulation pump.

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.

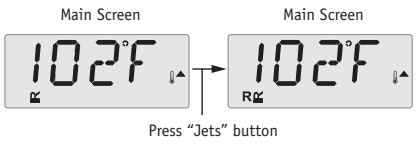
If the spa is configured for 24HR circulation, the primary pump generally runs continuously. Since the primary pump is always running, the spa will maintain set temperature and heat as needed in Ready Mode, without polling.

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.

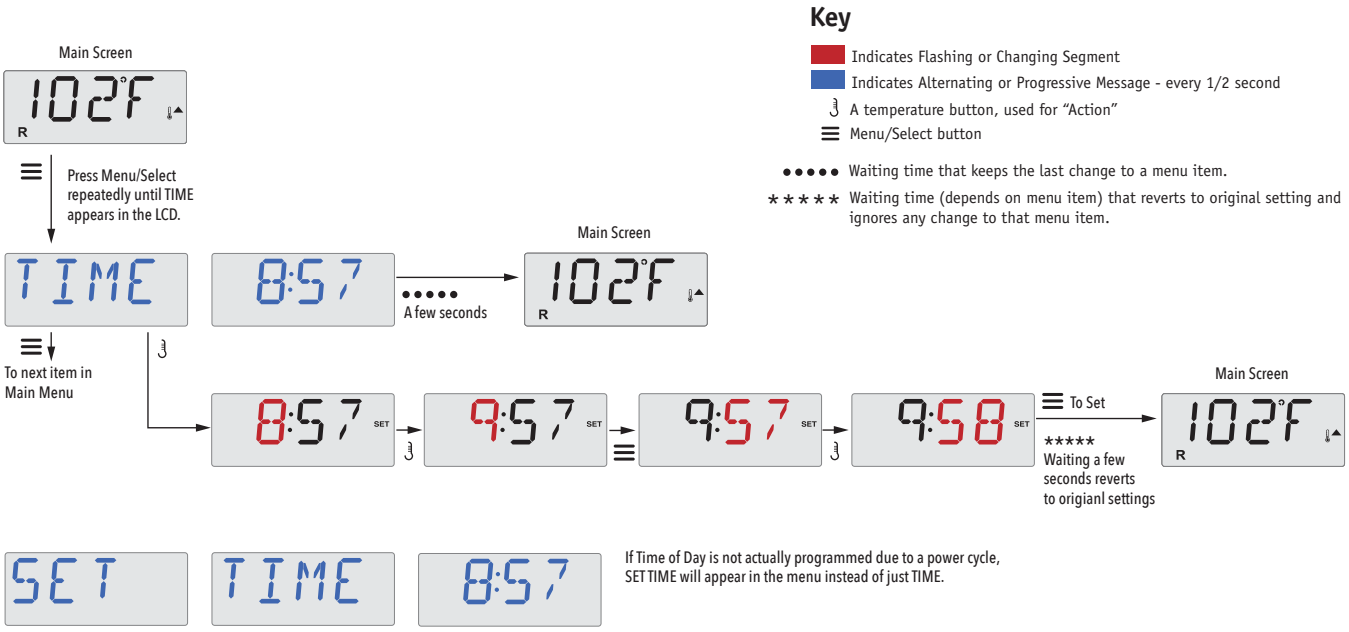


Setting the Time of Day

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.



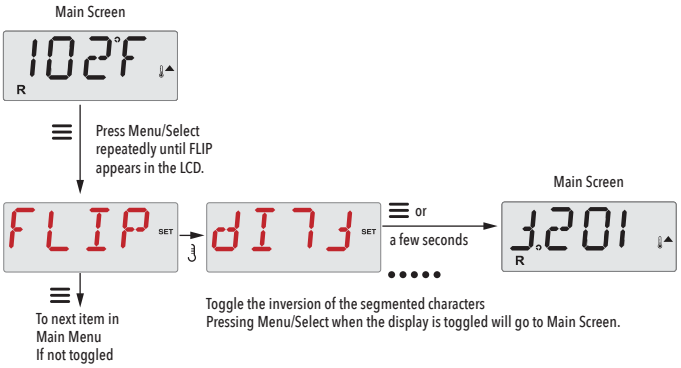
Note:

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 Display (Invert)



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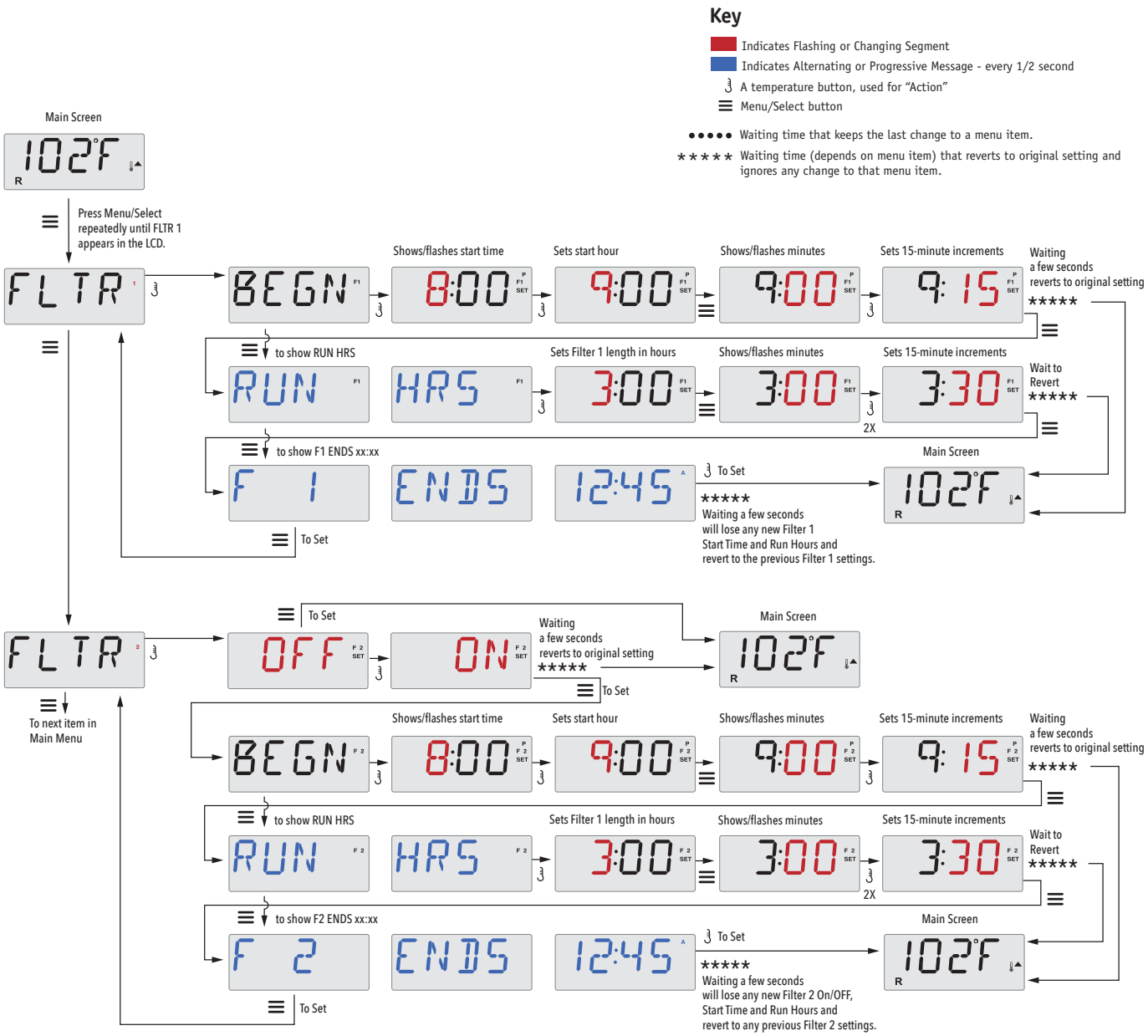
Adjusting Filtration

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.

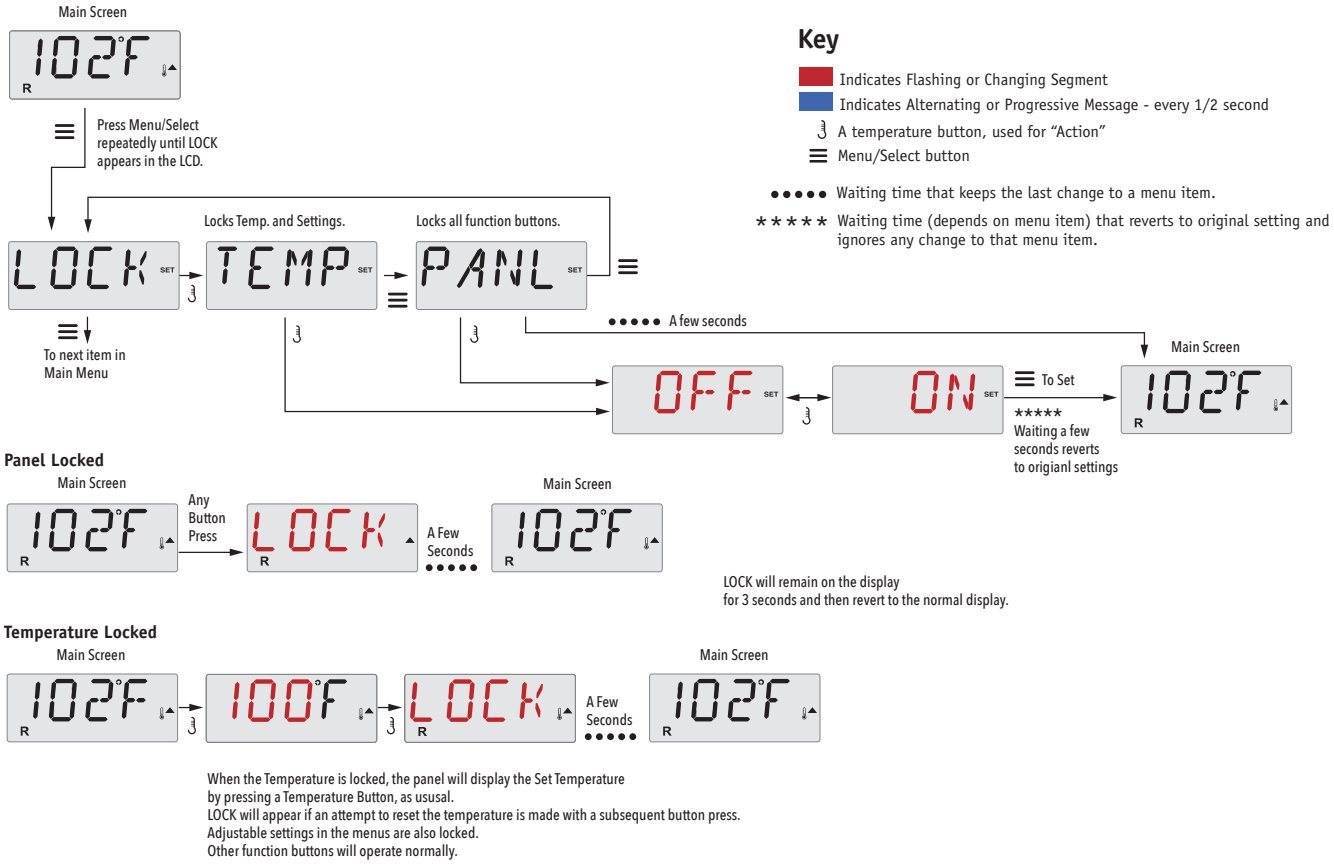
Panel Lock/Restriction

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.

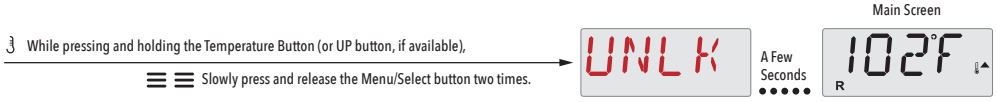
Temperature Lock allows access to a reduced selection of menu items.
These include Set Temperature, FLIP, LOCK, UTIL, INFO and FALT LOG.



When the Temperature is locked, the panel will display the Set Temperature by pressing a Temperature Button, as ususal.
LOCK will appear if an attempt to reset the temperature is made with a subsequent button press.
Adjustable settings in the menus are also locked.
Other function buttons will operate normally.

Panel Unlock

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".

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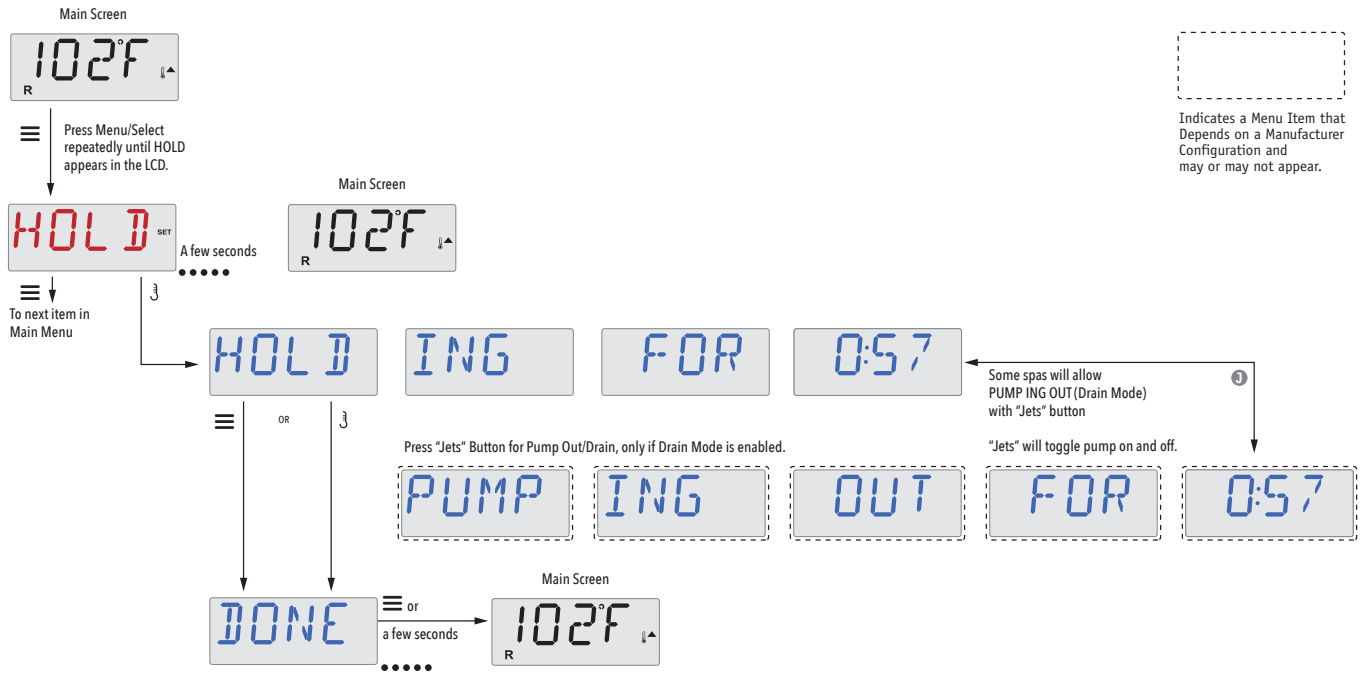
Pump Hold (Standby)

Hold Mode –MO37*

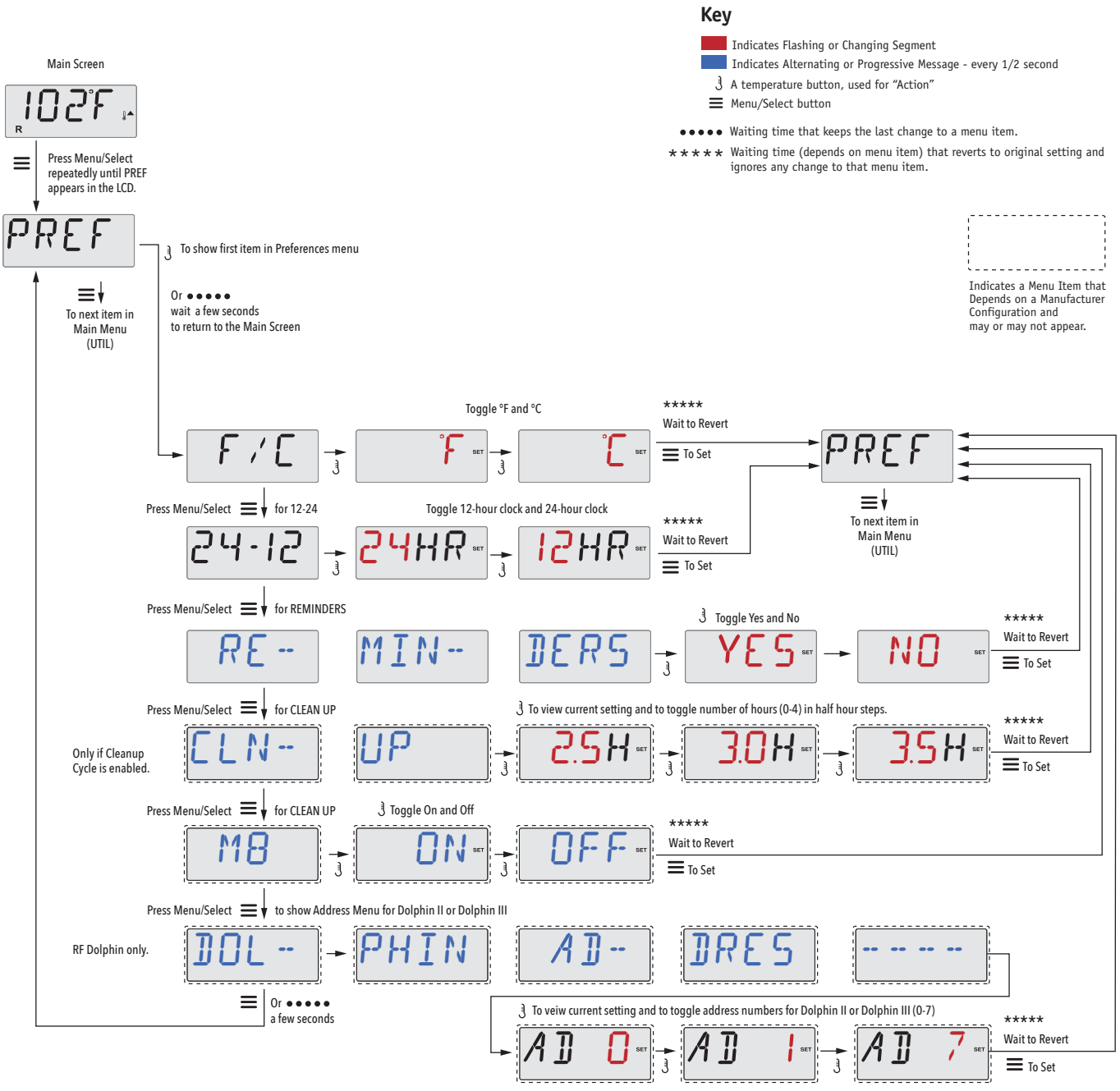
Hold Mode is used to disable the pumps during service functions like cleaning or replacing the filter. Hold Mode will last for 1 hour unless the mode is exited manually.

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.



Preferences



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Utilities and Information

INFO (System Information sub-menu)

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

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.

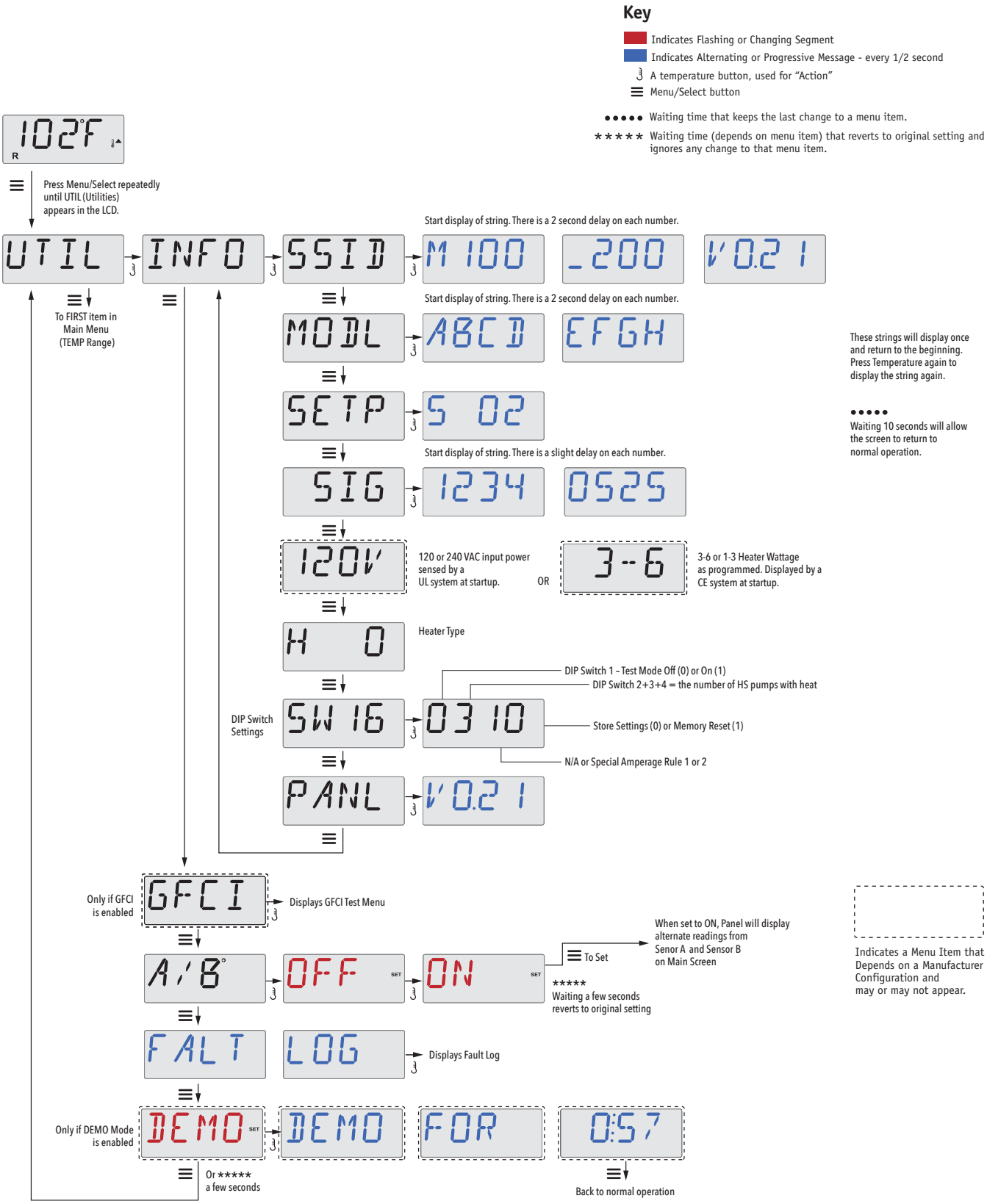
SW _ (Dip Switch Settings)

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.

Utilities



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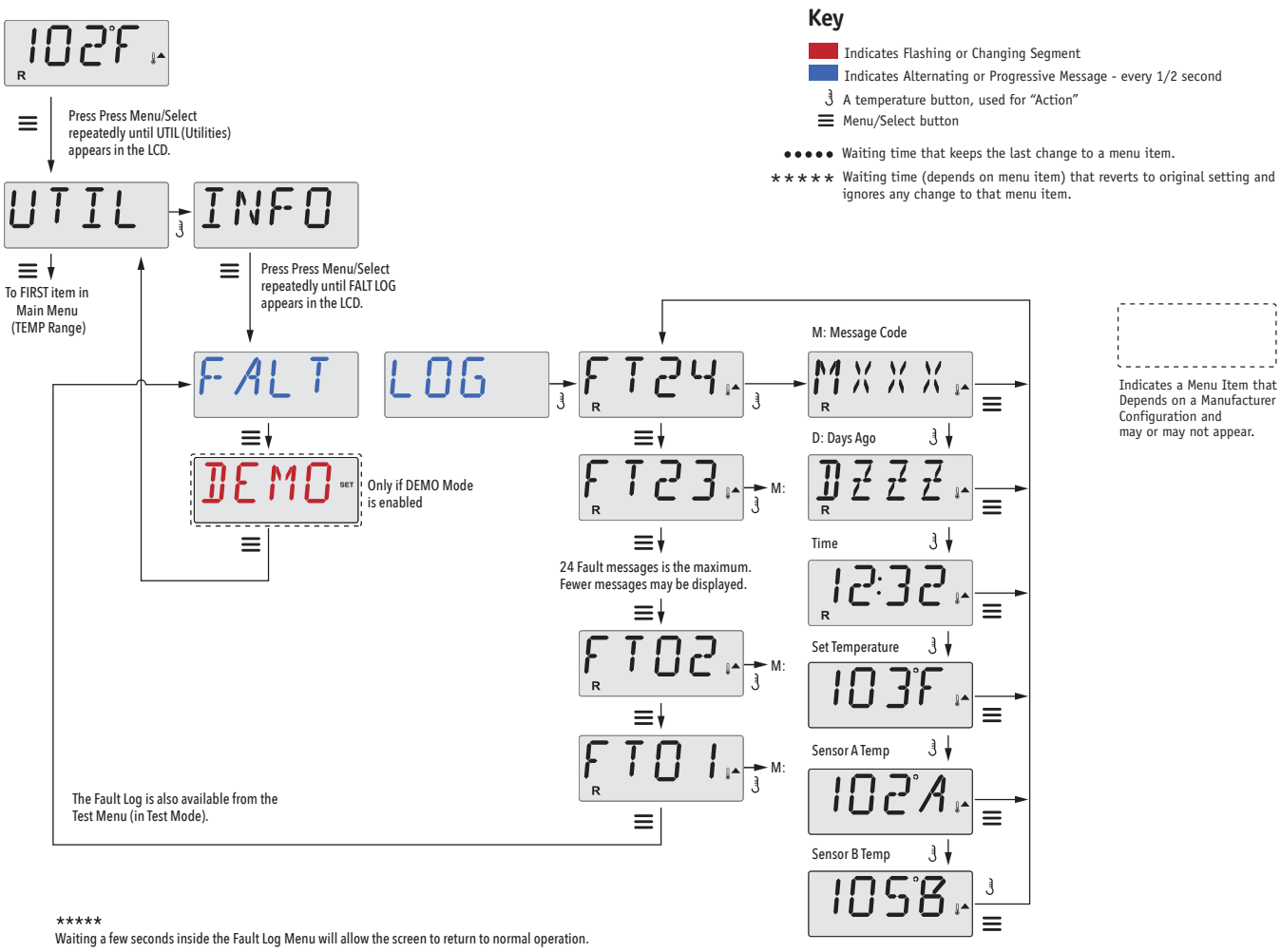
Utilities & Fault Logs

A Little History can tell a lot

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

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

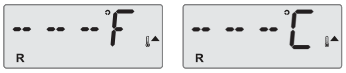


General Messages

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

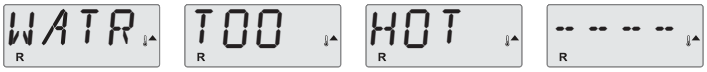
After the pump has been running for 1 minute, the temperature will be displayed.

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.



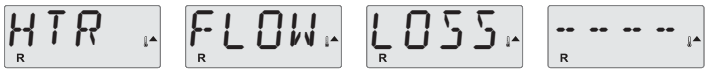
Water is too Hot (OHS) – MO29

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

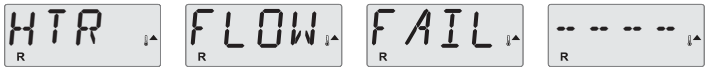
J29 is typically used as a Heater Disable input. As such, it should not typically be shorted at power-up. This message appears if J29 is shorted at power-up.

Heater Related Error Codes



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

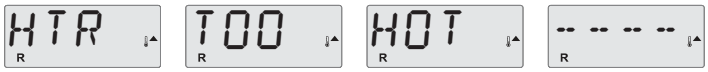
There is not enough water flow through the heater to carry the heat away from the heating element and the heater has been disabled. See “Flow Related Checks” below. After the problem has been resolved, you must press any button to reset and begin heater start up.

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.

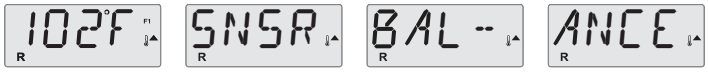
Flow-Related Checks

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.

Sensor Related Codes



Sensor Balance is Poor – MO15

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

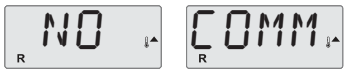
Sensor Balance is Poor* – MO26

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

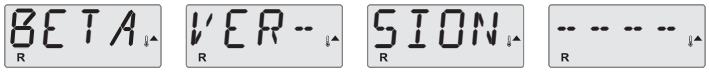
A temperature sensor or sensor circuit has failed. Call for Service.

Miscellaneous Codes/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.

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Miscellaneous Codes/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.

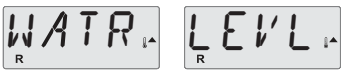
Operation Related Codes/Messages

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.

Reminders

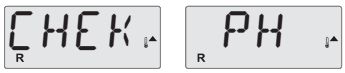
General maintenance helps.

The display of Reminder Messages can be suppressed by using the PREF Menu.

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.

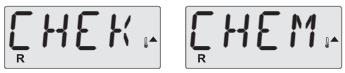
Press a Temperature button to reset a displayed reminder message.



Alternates with temperature or normal display.

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

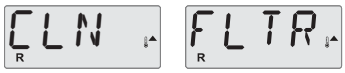
Check pH with a test kit and adjust pH with the appropriate chemicals.



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.

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:

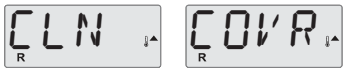
If freezing conditions exist, a GFCI or RCD should be reset immediately or spa damage could result.
The end user should always trained to test and reset the GFCI or RCD on a regular basis.

Reminders

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.

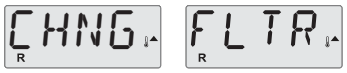
Appears on a regular schedule, e.g. every 180 days.

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.

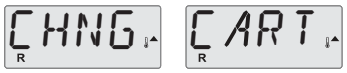
Wood skirting and furniture should be cleaned and conditioned per the manufacturers instructions for maximum life.



Alternates with temperature or normal display.

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

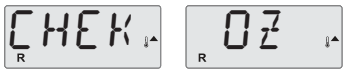
Filters should be replaced occasionally to maintain proper spa function and sanitary conditions.



Alternates with temperature or normal display.

As needed.

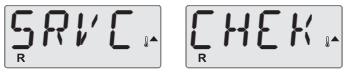
Install new mineral cartridge.



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.

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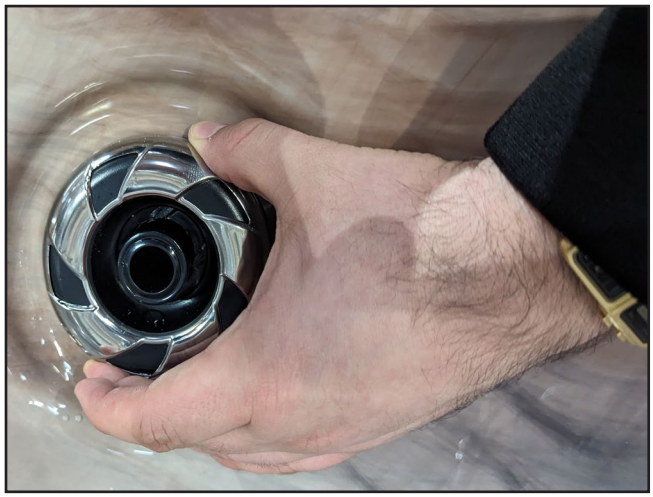
Jets

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.

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

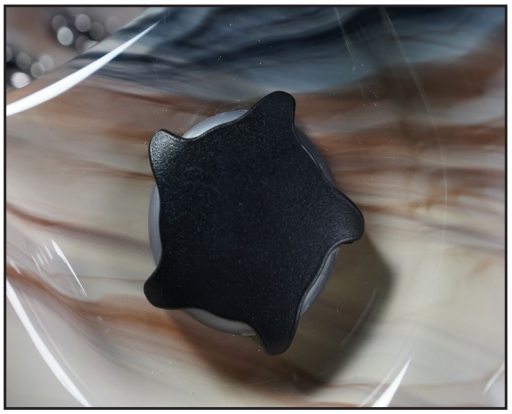


Water Diverters

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 controls 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.



Hydro Streamer Waterfall / Optional Feature

Your spa may include two to three hydro streamer waterfalls. When the booster pump is on, turn the 1" diverter knob to adjust the rate of flow to the waterfall jets. The waterfall jet faces are not adjustable. Do not turn the jet faces because you may accidentally remove them.

Always shut off water to the hydro streamers before placing the spa cove on the spa. Water from the hydro streamers sprays in an arc that is higher than the top surface of the spa when. Water from the hydro streamer will spray the bottom of the cover and begin to collect and run off the sides of the cover causing water to drip off the sides of the spa.

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:

The Key to Clear Water

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.

Sanitization

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.
Spa owners with an ozonator also need to add sanitizer, although their requirements are different.

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.

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.

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 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.

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.

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.

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
Chlorine level		
Without ozonator	3.0	5.0
With ozonator	2.0	4.0
Bromine level		
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 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

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.

Maintenance Schedule

Each time you refill the spa	Follow the section "Filling and Powering Up Your Portable Spa"
Prior to each use	Test the spa water using either test strips a reagent test kit. Adjust chemical levels as necessary.
Once a week	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.
Once a month	Deep clean your spa's filter. (Follow filter cleaning instruction at beginning of this section)
Every two to four months	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: • Clean and polish the acrylic surface • Clean and treat the spa cover and pillows • Deep clean the filter • Refill your spa
Once a year	Replace filter cartridges if the pleats appear frayed.

Troubleshooting Water Clarity Problems

Problem	Probable Causes	Possible Solutions
Cloudy Water	• Dirty filter • Excessive oils / organic matter • Improper sanitization • Suspended particles / organic matter • Overused or old water	• Clean filter • Shock spa with sanitizer • Add sanitizer • Adjust pH and/or alkalinity to recommended range • Run jet pump and clean filter • Drain and refill the spa
Water Odor	• Excessive organics in water • Improper sanitization • Low pH	• Shock spa with sanitizer • Add sanitizer • Adjust pH to recommended range
Chlorine Odor	• Chloramine level too high • Low pH	• Shock spa with sanitizer • Adjust pH to recommended range
Musty Odor	• Bacteria or algae growth	• Shock spa with sanitizer – if problem is visible or persistent, drain, clean and refill the spa
Organic buildup / scum ring around spa	• Buildup of oils and dirt	• 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
Algae Growth	• High pH • Low sanitizer level	• Shock spa with sanitizer and adjust pH • Shock spa with sanitizer and maintain sanitizer level
Eye Irritation	• Low pH • Low sanitizer level	• Adjust pH • Shock spa with sanitizer and maintain sanitizer level
Skin Irritation / Rash	• Unsanitary water • Free chlorine level above 5 ppm	• Shock spa with sanitizer and maintain sanitizer level • Allow free chlorine level to drop below 5 ppm before spa use
Stains	• Total alkalinity and/or pH too low • High iron or copper in source water	• Adjust total alkalinity and/or pH • Use a stain and scale inhibitor
Scale	• High calcium content in water – total alkalinity and pH too high	• Adjust total alkalinity and pH – if scale requires removal, drain the spa, scrub off the scale, refill the spa and balance the water • Use a stain and scale inhibitor

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.

Spa Cover

Important! Keep the spa covered when not in use!

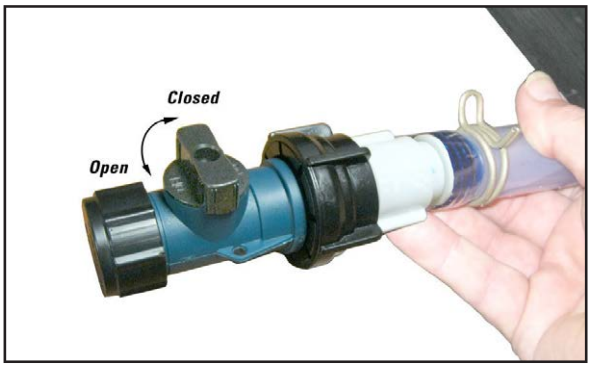
- Covered spas will use less electricity in maintaining your set temperature.
- Covering your spa will protect your spa's finish from the sun's ultraviolet rays.
- You are required to keep the spa covered to maintain warranty coverage.
- Covering your spa helps prevent children from drowning in the spa.

See the manual enclosed with your cover for instructions on mounting the locks and how to lock and unlock the cover.

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.

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 ¾ 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. Refer to control panel type, you may have access to a vacation mode, if not set to lower tempertures of 80F°.
2. Adjust the pH of your water,
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.

Using the Sound System

The optional stereo entertainment system contains a Bluetooth enabled speaker system. This is designed to pair and unpair easily and quickly, controlled through your mobile device or tablet.

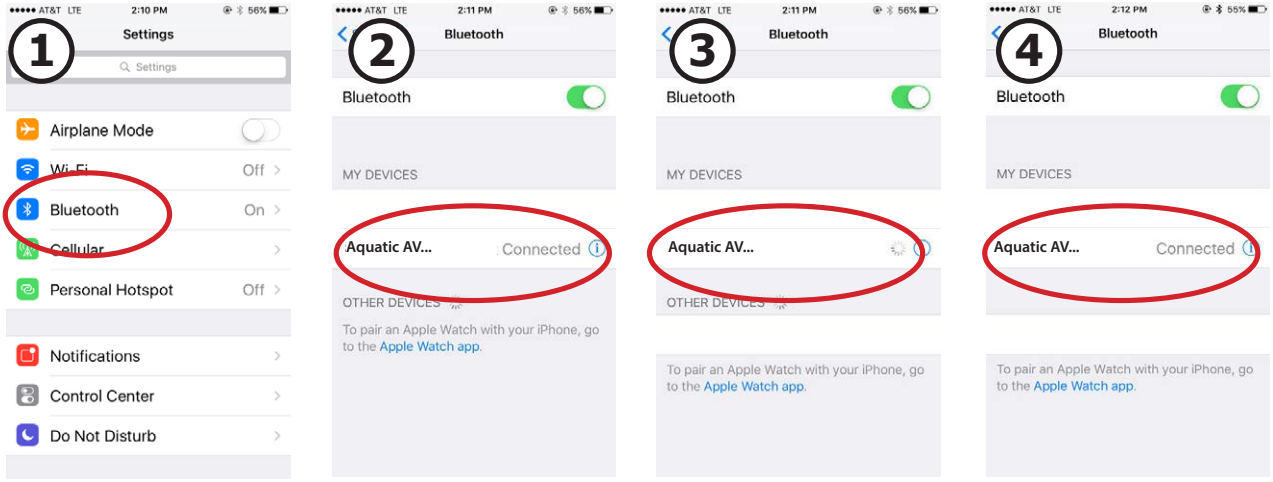
Before you can use the sound system, you need to pair the Bluetooth module with your device. The Bluetooth module is installed within the spa cabinet. Everything can be done with your device. The example shown below is from an iPhone device. Your device may appear differently. Before you begin, make sure Bluetooth in enabled on your device.

1. Select Bluetooth from your device's option list.
2. Select **Aquatic AV...** from the list of available devices to pair.
3. Your iPhone device will ask for a code: the code is **0000**.
4. Allow your device to pair with the spa's Bluetooth module.
5. When the devices have been connected, the device **Aquatic AV...** will be highlighted.

Only one device can be paired with the spa sound system at a time.

(For Android users, the systems will pair automatically - no code is needed.)

Once your device is paired and connected, all sounds from your device will be played through the sound system, including system sounds and telephone.



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.

Spas with exterior corner LED lighting generally work in the same mode as described above. The variations in color and patterns provide you with multiple options to suit almost any lighting preference.

ANYWHERE. ANYPLACE.

Access your spa via

1. a direct connection anywhere in the local proximity of your tub = ***(INITIAL SETUP)***
2. anywhere in your house that you can connect to your local WiFi network = ***(LOCAL CONNECT)***
3. anywhere in the World you have an internet connection to your smart device via 3G, 4G or WiFi hot spots = ***(CLOUD CONNECT)***

bwa™ for Android™

bwa™ for iOS®

BWA APP FOR IOS & ANDROID DEVICES

1. Before starting, ensure the wifi module is connected to the BP control pack. Also flip your spa breaker off then back on again to send the wifi module into discovery mode.
2. On your iPhone or Android device ensure that the wifi option is toggled active to detect networks nearby. stay on this discovery screen.
3. Select the network with the name BWGSpa_xxxxxx (it will be a combination of numbers and letters)
4. Once connected to the network you can proceed to the BWA App.

CRYSTAL COVESPAS™

INITIAL SETUP

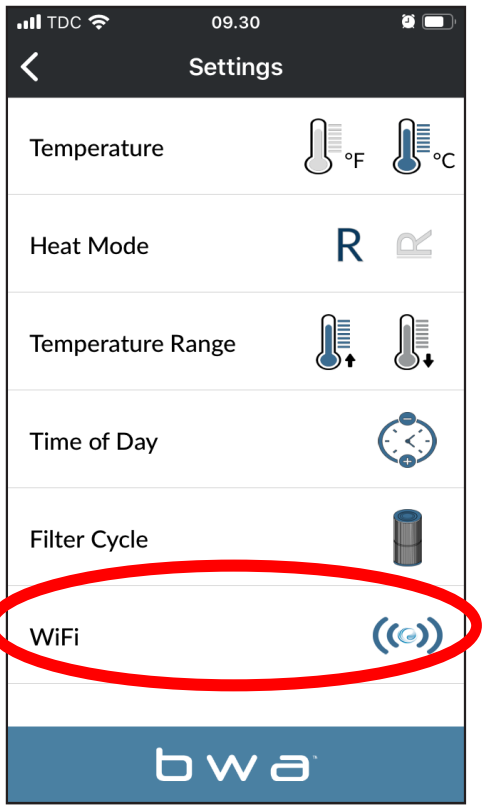
5- Launch the BWA app and select inital set up.

6- Once selected follow the steps presented to you within the app, it will attempt to communicate with the module to establish its first inital connection.

7- After following the steps presented in the app you will be greeted with the sceen above, you will now be able to control the spa using the modules local wifi network.

8- Test the communication of the module with the app by turning on your pump or light option

LOCAL CONNECT

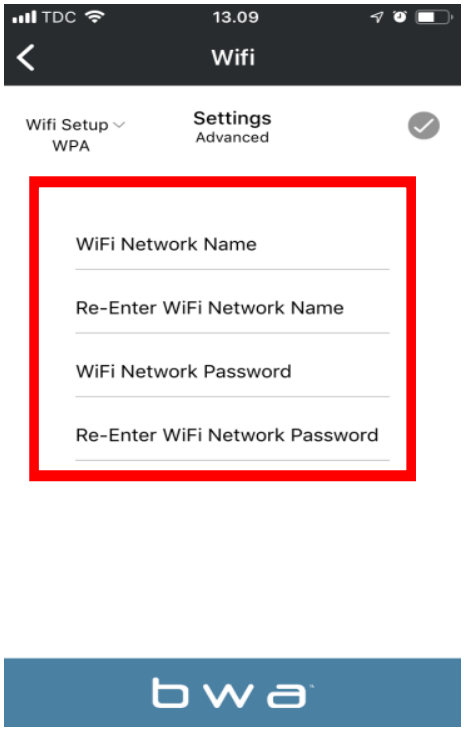


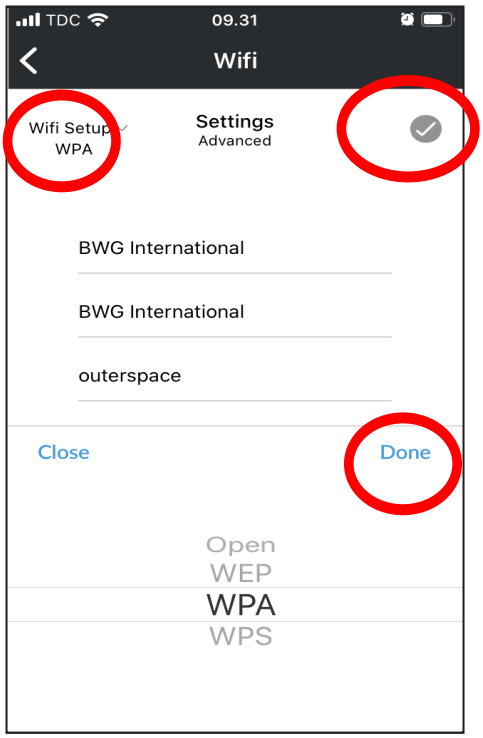
9- Once there is confirmation that the app communicates to the spa select the setting icon in the top right corner.

10- Select under settings the "Wifi"option.

11- Enter your home wifi's network information to begin pairing the spa to the home network.

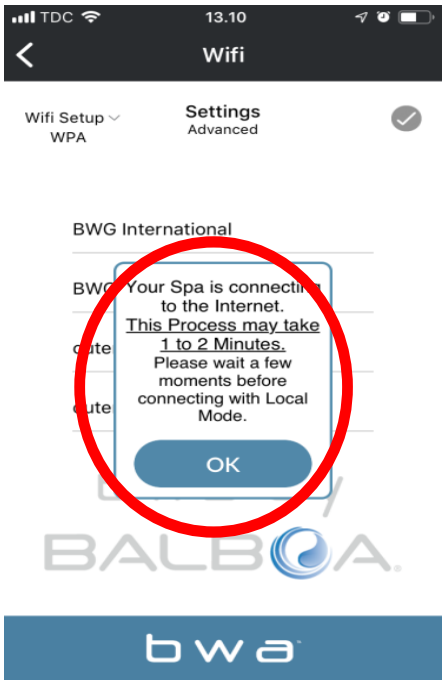
12- Confirm the type of network security used by your home network and press the grey checkmark to proceed.





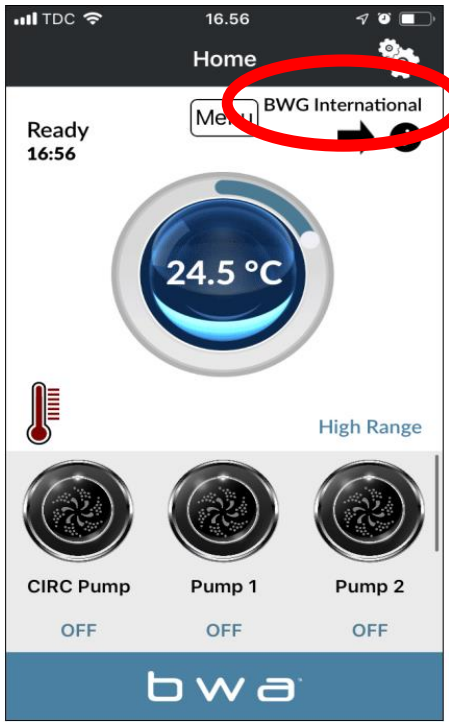
CRYSTAL COVESPAS™

LOCAL CONNECT



13- If you have successfully entered your home wifi network information you will get a prompt to leave the device running for a few minutes the spas wifi module is now attempting to pair with your home wifi.

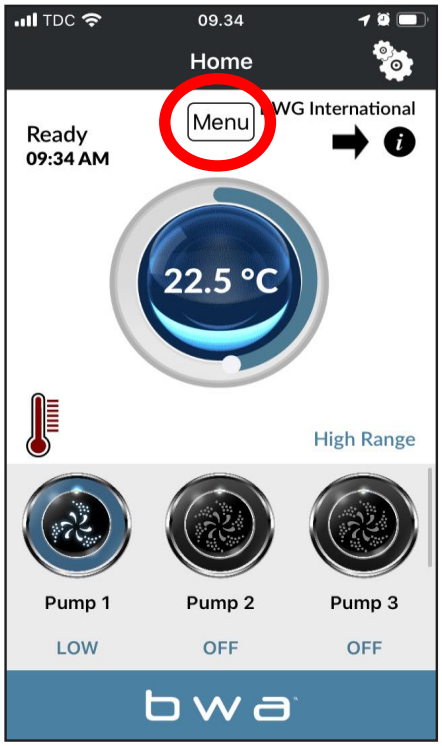
14- Check your mobile device network settings again and confirm that your mobile device has now paired back to your home wifi network and it is no longer connected to the temporary wifi network.

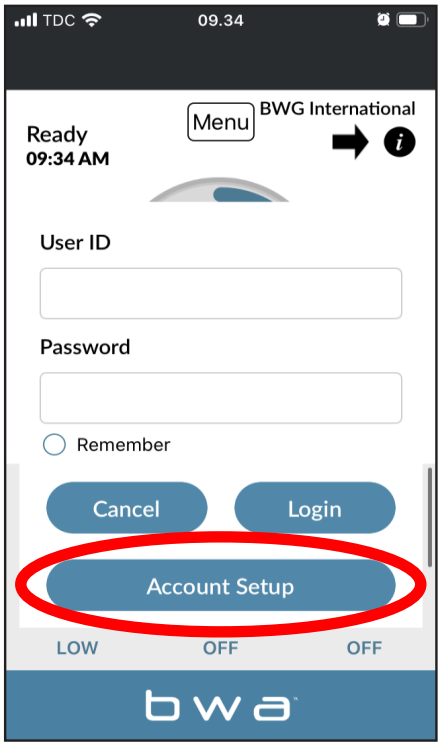


15- Switch back to the app and select local connect. it will now show your home wifi network name in the top corner.

You are now able to connect to your spa via your home network. As long as you are within range of your wifi network you will be able to

CLOUD CONNECT





1- Select the Menu option on the top center of the app.

2- Select Cloud Connect, the app will prompt you to a log in screen.

3- You will need to create an account to access your spa via cloud connection. follow the steps presented, which will include the creation of a username, password, and security questions. we would sugest to write this log in on your manual for refrence.

4- Once your account is created log in with your credencials, you have now unlocked the ability to control your spa through your cellphone network or other wifi networks when not at home or near the spa.

Basic Troubleshooting

The troubleshooting guidance provided here is intended to cover the most common problems a spa owner may encounter. For more in-depth troubleshooting, go to www.calspas.com/troubleshooting.

Symptom	Possible Solutions
Problems starting up	
Pump won't prime	See priming instructions
Breaker keeps shutting off	Reset the GFCI breaker. If this continues, contact your dealer or a qualified spa technician.
Power and system problems	
System won't start up or breaker keeps shutting off	Power may be shut off. Turn on GFCI circuit breaker. If this continues, contact your dealer or a qualified spa technician.
Control panel doesn't respond	Turn on or reset the GFCI circuit breaker. If this does not solve the problem, contact your dealer or a qualified spa technician. If you hear the pump running but the control panel doesn't respond, contact your dealer
Spa does not turn off	Spa may be trying to heat up. Check if spa is in Ready or Rest mode In cold climates, if spa is not equipped with full foam or any kind of insulation, it will try to maintain the set temperature. Set the spa to low temperature range and set the temperature to 80°F. Spa may be in filter cycle. If it is, this is normal and no adjustment is necessary.
Message on the control panel	There may be a problem. See Diagnostic Messages
Heat problems	
Spa water does not get hot	Spa may be in low temperature range. Set the spa to high temperature range. The filter may be dirty or may need to be replaced. Clean or replace the filter. The water level may be too low. Fill the spa with water level at 4 to 6 inches from the top. The temperature is not turned up high enough. Raise temperature on topside control. Cover the spa. The cover will keep heat in the spa and help keep heat from escaping. Make sure cover is on at all times when spa is not in use. The heater element may be old, deteriorated, coated with scale, or defective. Contact your dealer for more assistance. The gate valves may be partially or completely closed. NEVER OPERATE YOUR SPA WITH THE GATE VALVES CLOSED!

Symptom	Possible Solutions
Spa overheats - temperature greater than 110°F / 43°C	Overheating can occur during summer months and may not necessarily indicate a malfunction. When it occurs, a message code may also appear on the control panel. Temperature may be set too high. Turn the set temperature down to a lower temperature. Filtration time may be too long. Turn the filtration cycles down during the warm months. The spa may not be properly ventilated. Make sure the front of the spa is not blocked to allow air flow. High speed pumps may have been running too long. Limit pump running time to no more than 15 to 30 minutes.

Water pressure problems

Low water pressure	Jet valves may be partially or fully closed. Open the jet valves. Filter cartridge may be dirty. Clean or replace the filter. Pump may have airlock. Remove airlock by priming spa The suction fittings may be blocked. Remove any debris that may be blocking them. The filter skimmer may be blocked. Remove the blockage. Gate valves may be closed. Open gate valves. Note: Never operate your spa with the gate valves closed! Spa may be running in filtration mode. Press JETS or JETS 1 button to turn on high speed pump.
No water pressure (no water stream from any jets)	Power may be switched off. Turn the power back on. The pump may be defective. After you have tried all other troubleshooting, contact your dealer for assistance.
Jets surge on and off	Water level may be too low. Add water to normal level.

Pump problems

Pump runs constantly – will not shut off	There may be a problem with circuit board. Contact your dealer.
Noisy pump	The water level may be too low. Fill the spa with water level at 4 to 6 inches from the top. Filter cartridge may be dirty. Clean or replace the filter. Pump may have airlock. Remove airlock by priming spa The suction fittings may be blocked. Remove any debris that may be blocking the suction fittings. Gate valves may be closed. Open gate valves. Note: Never operate your spa with the gate valves closed! Air may be leaking into the suction line. Contact your dealer for assistance. Debris may be inside the pump. Contact your dealer for assistance. Noise may be a sign of damage. Contact your dealer for service.

Symptom	Possible Solutions
Pump turns off during operation	Automatic timer may have completed its cycle. Press JETS or JETS 1 button to start the cycle again. Pump may have overheated due to the vents on the equipment door being blocked. Make sure the front of the spa is not blocked to allow air flow. The pump motor may be defective. Contact your dealer for assistance.
Pump has a burning smell while running	A burning smell may be a sign of damage. Contact your dealer for service.
Pump does not run	Pump may have over heated. Let it cool for an hour and try operating the spa for a shorter time. Power to the spa may be shut off. Turn on or reset the GFCI circuit breaker. If this does not solve the problem, contact your dealer or a qualified spa technician.

"Thermal Creep"

Our spas are designed with energy efficient components and systems that are meant to sustain heat generated by the equipment, the heat trapped inside the spa cabinet will cycle back into the spa water. In colder climates or in the winter this helps prevent the spa from freezing, as we recommend year round spa operation.

In hot weather or in situations where the spa is set to run extended filter cycles, **"Thermal Creep"** may occur, a condition where the measured water temperature can be higher than the set heater temperature. This is a normal occurrence and it does not mean that the heater or spa is malfunctioning, the ways to manage thermal creep go as follows.

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.

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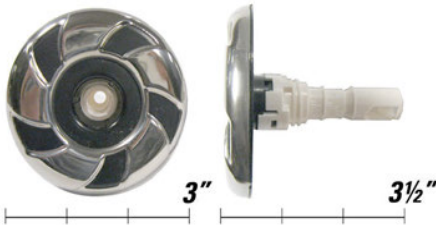
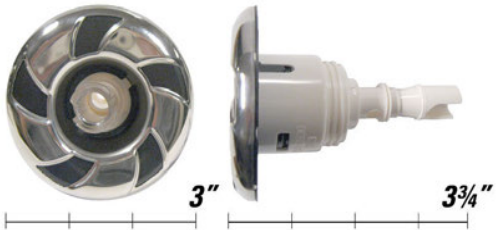
Appendix

Replacement Parts

Screw-in Jet Inserts	Screw-in Jet Inserts
ELE 2” Euro No Eyeball PLUCS2295021S 	**MFD 3.5” Maxi Flow Directional** PLUCS2295091S 
ED 2” Euro Directional PLUCS2295051S 	**PSD 5” Power Storm** PLUCS2295131S 
MED 3” XL Cluster Storm Directional PLUCS2295031S 	**ET 2” Cluster Storm Twin** PLUCS2295161S 
mfd 3” Micro Flow Directional PLUCS2295061S 	**MMP 3” Mini Multi-Massage** PLUCS2295171S 

Screw-in Jet Inserts

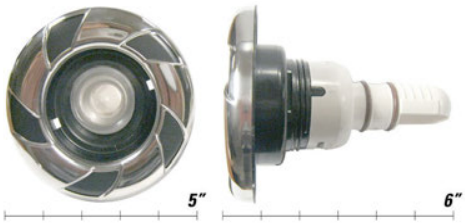
PSTR 5” Power Storm Twin Roto
PLUCS2295181S

MMP 5” Power Storm Riffed
PLUCS2295141S

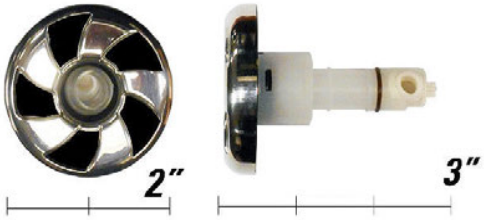
PST 5” Power Storm Wagon Wheel
PLUCS2295191S

Screw-in Jet Inserts

T 5” Tornado Adjustable
PLUCS2295201S



2” Neck Jet Directional
PLU29923-014-000



CRYSTAL COVESPAS™

LED Lights

1-LED light string
Part #: LIT16100330

2-LED light string
Part #: LIT16100331

4-LED light string
Part #: LIT16100332

Cover Lock and Keys

Part #: ACC01800026, ACC01800020

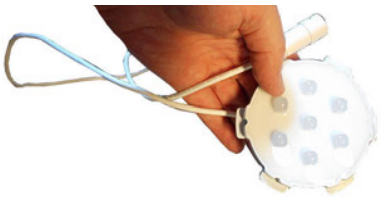
LED Lights

1 to 3 ext. cord
LIT16100335

1 to 1 port ext. cord
LIT16100338

Interior light with logic (7 LED)
LIT16100333

Interior light without logic (7 LED)
LIT16100337



Main light housing, LED lens, fitting nut
LIT630-7048

Replacement of 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**

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LIMITED WARRANTY

This Limited Warranty is extended to the original purchaser of the spa produced by Lloyd's Material Supply company, Inc. Which manufactures the Crystal Cove brand portable spa manufactured after January 1st, 2024 and installed for residential use in the United States of America and Canada. This warranty begins on the date of delivery of the spa, but in no event later than one year from the date of manufacture.

Shell Structural Warrantied against water loss due to defects in the spa shell.	5 Years
Shell Finish Warrantied against blistering, cracking, or delaminating of the interior spa shell.	2 Years
Equipment and Controls Electrical equipment components, specifically limited to the pumps, standard titanium heater, and control system, are warranted against malfunction due to defects in workmanship or materials.	2 Years
Plumbing Warrantied against leaks due to defects in workmanship or materials	2 Years
Cabinet - synthetic or fiberglass Warrantied against defects in workmanship or materials. Normal wear and weathering of the finish will occur naturally over time and are not defects.	1 Years

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 & salt system is warranted against malfunction due to defects in workmanship or material for one year from the original date of the spa delivery. All stereo-related components (receiver, speakers, power supply, Bluetooth antenna, etc) and Wifi modules are warranted against malfunction due to defects in workmanship and material for one year from the original date of delivery. All other factory-installed components non mentioned specifically, including, but not limited to the wood frame, jets, diverter vales, LED lighting system, filter lids, and mechanical components, are warranted against malfunction due to defects in workmanship and material for two years from the original date of delivery.

The insulating spa cover is warrantied for 90 day from original date of delivery.

Genuine Parts & Accessories

This limited warranty is void if Lloyd's Material Supply Company, Inc., Manufacture of the Crystal Cove brand 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 Crystal Cove branded parts and accessories. This disclaimer includes, but is not limited to filters, UV Bulbs, ozone systems, salt systems, repair parts, and other accessories. Genuine Crystal Cove branded parts and accessories are built to our highest standards of quality, durability, and performance. These parts 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 your dealer 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 warranty. There will be no charge for the parts or labor to repair the defect, although providing access to affect the repair is the responsibility of the spa owner. Freight charges for replacement parts is the responsibility of the spa owner. The servicing technician/ organization may charge the owner a travel/service fee as well as a diagnose fee, these charges are not covered.

In the event that the spa is removed to a repair facility for repair and reinstalled, the cost of removal and re-installation will be the responsibility as the spa owner. If Lloyd's Material Supply Company Inc, the manufacture of the Crystal Cove brand determines that repair of the converted defect is not feasible, it reserves the right to provide a replacement spa of equal or lesser 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, delivery, and installation of the replacement spa will be the responsibility of the spa owner. The replacement spa will carry the balance of the original spas warranty. Spa covers are not included. This warranty ends either by the specified time frame, owner-transfer of the spa, relocation, or installation of any component other than the manufacture.

Warranty Limitations

The Limited Warranty is void if Crystal Cove spas or its designated LMS representative determines that the spa has been subjected to alteration, neglect, misuse, abuse, or freight damage caused by the common carrier; any repairs have been attempted by anyone other than the designated representative; the failure is caused by an accident, acts of got or other causes beyond the control of the manufacture including acts of nature (damage caused by rodents, animals, insects and other pests) are not covered by this warranty, additionally neglect, misuse and abuse include any installation, operation or maintenance of the spa other than in accordance with the instructions contained in the owners manual provided with the spa, including but not limited to, failure to maintain proper water chemistry/chemical balance, 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 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 Lloyd's Material Supply Inc, or a designated representative. This limited warranty is void if damage occurs to the spa shell because of excessive heat build up due to failure to cover a spa that is empty of water while exposed to direct light.

Proration of Warranty

Units determined by the manufacture to be non-repairable will be replaced on a prorated basis with the same or a comparable unit. The owner will be charged 1% 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 6 months of ownership [example]: Product failure is determined during seven months of ownership. The owner will be responsible to pay for 7% of the products current cost.

Limitations

The manufacture disclaims all warranties, expressed or implied, in fact or in law, to the extent allowed by your states law, including the warranty of merchantability and fitness for use, except as stated specifically herein. All warranty service must be performed by the manufacture or a designated representative using authorized 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 manufacture 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 Lloyd's Material Supply Company, Inc.

Disclaimers

Lloyd's Material Supply company, Inc the manufacture of the Crystal Cove brand and its representatives shall not be liable for any injury, loss, cost, or other damage 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 manufacture was advised of the possibility of damage. The liability of the manufacture 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 period. These disclaimers shall be equally applicable to any service provided by the manufacture 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 no allow limitations on how long an implied warranty lasts, so this limitation may not apply to you.

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CRYSTAL COVESPAS

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