



2014

**Owner's
Manual**

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PRODUCT & CARE GUIDE

Your Authorized Coast Spas Dealer carries a wide variety of care and maintenance products. For more information please contact your Dealer.

REQUIRED FILTER MAINTENANCE

Your new hot tub is equipped with a Microban filter cartridge. To ensure maximum water quality at all times, you should replace the filter cartridge every six months, or earlier as necessary. The filter cartridge is designed to be thrown away! Attempts to re-use the filter cartridge may result in the re-release of unwanted particles back into the hot tub.

REQUIRED WATER REPLACEMENT

You should replace the hot tub's water every 3-6 months. The frequency will depend on a number of variables including frequency of use, number of bathers and attention paid to the water quality maintenance. You will know it is time for a change when you can no longer get the normal feel or sparkle to the water, even though the key water balance measurements are all within the recommended ranges.

HEADREST / PILLOW CARE

The pillows can be removed for easy cleaning and maintenance. All pillows have plugs within the pillow itself. To remove the pillow, grab the bottom edge firmly and pull outward. This will allow the pillows to pop-out from the receptacle in the spa shell. To reinstall the pillow you will align the pillow plug with the receptacle. Press/hit the front side of the pillow firmly, which will insert the plug back into the receptacle.

- Do not sit on the pillows
- Do not pull on the pillows
- Proper water chemistry must be maintained. Failure to do so may damage the spa pillows.
- Pillows should be cleaned using a soft cloth and mild soap, then wiped with a conditioner. We recommend that pillows be washed each time you drain your spa.

HOT TUB INTERIOR

Your Coast spa has a fiberglass reinforced acrylic shell. Generally dirt and stains will not adhere to the surface. To properly clean the surface, we recommend wiping it with a soft damp cloth (or sponge) using household soap or liquid detergent and rinsing thoroughly with fresh water. Stubborn dirt or stains may be removed by using Spic & Span adequately dissolved in water.

DO NOT use any cleaning products containing abrasives or solvents, since these could damage the surface. Harsh chemicals should never be used on acrylic surfaces. Damage to the shell due to the use of harsh chemicals is not covered under the warranty.

DO NOT leave your hot tub drained and in direct sunlight for extended periods of time. Extreme heat could cause damage to the acrylic surface.

STAINLESS STEEL CONTROLS AND COMPONENTS ABOVE THE WATER LINE

To preserve the stainless steel finish of the controls and components above the water line, we recommend they be wiped with a dry soft cloth after each use of your hot tub.

CABINET CARE

Never spray cabinets with a high-pressure garden hose or pressure washer for any reason. This action may induce an electrical short in the hot tub's electrical equipment.

CEDAR CABINET

Our cedar cabinets are made from top quality Western Cedar and manufactured and stained at our factory. With proper care and maintenance, your cedar cabinet should maintain its beauty for many years. Coast Spas recommends touch-up or re-staining of the cabinet every three to four years depending on your environment. Contact your Dealer for re-staining procedures.

VINYL CABINET

Coast Spas' optional Vinyl cabinets are made of a rigid polymer that combines the durability of plastic with the beauty of real wood. This cabinet is manufactured so that it won't crack, peel, blister or delaminate even after prolonged exposure to the elements. We recommend wiping the cabinet with a soft damp cloth (or sponge) using household soap or liquid detergent and rinsing with fresh water thoroughly. **DO NOT** use abrasive cleansers or material as this may damage the surface.

SLATE CABINETS

Coast Spas' optional Slate cabinets are custom-built and painted in our factory. We recommend lightly brushing the cabinet with a SOFT bristle brush to remove any dirt or stains. For more information on the care of your Slate cabinet, please contact your Coast Spas Dealer.

COAST SPAS COVER CARE

A well cared for spa cover is a thing of beauty in its own right. Be sure to clean and condition your cover at least once a month – more often if needed. Your cover needs to be cleaned and conditioned because vinyl can be dry and become brittle, spoiling your spa's appearance. Dry, brittle vinyl can also tear at the seams and stress points. Quality materials, internal sewn reinforcing and careful workmanship can only go so far against the ravages of Mother Nature. See the specific Warranty card enclosed with your cover for further details.

- When you shock your spa you need to remove the cover for a minimum of 30 minutes to ensure that the chemical gas off can escape from the spa.
- You are required to keep the spa covered at all time when not in use to protect the shell from harmful UV rays.
- A covered spa will use less electricity when maintaining the desired water temperature
- See the manual that comes with the cover for proper mounting of the cover locks
- The cover should remain locked at all times to prevent unauthorized entry into the spa and potential drowning.
- Do not Sit, Stand or Lie on your cover. Nor should you place any heavy object on top of the cover as this may damage the structure.

VERY IMPORTANT: We recommend a vinyl conditioner. Your Coast Spas Dealer carries a wide variety of care and maintenance products. Choose a pleasant day each month to remove your cover from the spa and lay it on a flat surface accessible by garden hose. Douse the cover with a healthy amount of water from the hose or a bucket to rinse away loose dirt or debris. Using a soft bristle brush and a mild solution of dishwashing liquid (about one teaspoon of detergent to two gallons of water), and with a gentle circular motion, scrub the cover clean. Be careful not to let any areas of the cover dry before they're thoroughly rinsed. Now apply the vinyl conditioner as directed on the container. Massage the conditioner into the cover in a gentle but firm manner. Before replacing the cover on your spa, wipe and rinse any dirt from the bottom of the cover. When you are ready, put the cover on the spa.

NOTE: To remove tree sap, use lighter fluid (not charcoal lighter but the fluid used in cigarette lighters). Use sparingly, then immediately apply conditioner to that area.

HEAT PROBLEMS

Symptom	Probable Cause	Recommended Action
Water will not heat	Error message on control panel Spa is in a different Heat Mode Water level is too low Poor water flow Closed valves Pump 1 is not running	Refer to the Reference Card for your control panel to verify the error Set spa to "Standard Mode" Add water to the spa Clean filter & check valves Open all valves Contact your Dealer
Water is too hot	Incorrect reading Filter cycle duration is too long Pump speeds reversed	Verify temperature with thermometer Reduce duration of the filter cycle Contact your Dealer

LIGHTING PROBLEMS

Symptom	Probable Cause	Recommended Action
Standard light will not come on	Bulb has burnt out	Replace the light bulb
LED lighting not in sync	Burnt out bulb/connection	Contact your Dealer
LED lighting won't come on	Incorrect settings	Contact your Dealer

PUMPS WILL NOT PRIME

Symptom	Probable Cause	Recommended Action
Pump on but no water flow	Air trapped in pump No water in the pump Closed valves	Loosen bleed valve in skimmer Check the fill level in the spa Open all valves

JETS WILL NOT COME ON/POOR WATER FLOW

Symptom	Probable Cause	Recommended Action
Little to no water flowing from jets	Jets turned off Pump not primed Valves are closed Diverter set to a different seat Dirty filter	Open jet by turning the face counter clockwise Reset breaker to allow for the spa to prime the pump. Open bleed valve in the skimmer area Open valves Switch diverter Remove and clean filter cartridge

SPA IS LEAKING

Symptom	Probable Cause	Recommended Action
Water around base of spa	Loose connections Leak from internal fitting	Hand tighten all quick disconnects and fittings. Check gaskets and o-rings Contact your Dealer

NorthWind & Patio Series

Spa Controls

Initial Start-up

Your spa will enter Priming Mode (Pr) when it is energized. During Priming Mode, press “Jets” button repeatedly and be sure the pump is free of air. Priming Mode lasts less than 5 minutes. Press “Temp” to exit. After Priming Mode, the spa will run in Standard Mode (see Mode section). Some panels may not have a “Temp” button. On these panels the “Set,” “Warm,” or “Cool” buttons are used. Pump 1 low-speed is responsible for heating and filtration and will be referred to simply as the pump. In multi-button sequences, if the buttons are pressed too quickly in sequence, they may not register.

Temp Control (80°F - 104°F / 26°C - 40°C)

The last measured water temperature is constantly displayed. The water temperature displayed is current only when the pump has been running for at least 1 minute. On panels with a single “Temp” or “Set” button, to display the set temperature, press the button once. To change the set temperature, press the button a second time before the display stops flashing. Each press of the button will continue to either raise or lower the set temperature. If the opposite direction is desired, allow the display to revert to the current water temperature. Press the button to display the set temperature, and again to make the temperature change in the desired direction. On panels with “Warm” and “Cool” buttons, to display the set temperature, press “Warm” or “Cool” once. To change the set temperature, press a temperature button again before the display stops flashing. Each press of “Warm” or “Cool” will adjust the set temperature. After three seconds, the display will stop flashing and begin to display the current spa temperature.

Jets

Press “Jets” to turn the pump on or off, and to shift between low and high speeds (if equipped). If left running, the pump will turn off after a preset length of time, which on some systems may be as long as 2 hours for low speed. Low speed may run automatically at times, during which it cannot be deactivated from the panel, but high speed may be operated. The ozone generator (if installed) will activate anytime low speed is running.

Light

Press “Light” to operate the spa light. Turns off after 4 hours.

Mode

Depending on system configuration, mode changing may not be available and will be locked in Standard Mode. Mode is changed by pressing “Temp,” then “Light”. **Standard Mode** maintains set temperature. It will be displayed momentarily when you switch into Standard Mode. **Economy Mode** heats the spa to the set temperature only during filter cycles. Ec will display when water temp is not current, and will alternate with water temp when the pump is running. **Sleep Mode** heats the spa to within 20°F/10°C of the set temperature only during filter cycles. SL will display when water temp is not current, and will alternate with water temp when the pump is running.

Preset Filter Cycles

The first preset filter cycle begins 6 minutes after the spa is energized. The second preset filter cycle begins 12 hours later. Filter duration is programmable for 1, 2, 3, 4, 5, 6, 7, or 8 hours. The default filter time is 1 hour. To program, press “Temp,” then “Jets.” Press “Temp” to adjust. Press “Jets” to exit programming.

Elite Series Spa Controls

Initial Start-up

Your spa will enter Priming Mode (Pr) when it is energized. During Priming Mode, press “Jets” button(s) repeatedly and be sure all pumps are free of air. Priming Mode lasts for less than 5 minutes. Press “Warm” or “Cool” to exit. After Priming Mode, the spa will run in Standard Mode (see Mode section). The pump responsible for heating and filtration (pump 1 low-speed on non-circ system, or the circ pump on circ systems) will be referred to simply as the pump. In multi-button sequences, if the buttons are pressed too quickly in sequence, they may not register.



Temp Control (80°F - 104°F / 26°C - 40°C)

The last measured water temperature is constantly displayed. The water temperature displayed is current only when the pump has been running for at least 2 minutes. To display the set temperature, press “Warm” or “Cool” once. To change the set temperature, press temperature button again before the display stops flashing. After three seconds, the display will stop flashing and begin to display the current spa temperature.

Jets 1

Press “Jets 1” to turn pump 1 on or off, and to shift between low and high speeds (if equipped). The low-speed will turn off after 4 hours. High-speed will turn off after 15 minutes. Low-speed may run automatically at times, during which it cannot be deactivated from the panel, but high-speed may be operated.

Jets 2/Jets 3/Blower (if equipped)

Press the corresponding button once to turn the device on or off. The device will turn off after 15 minutes. Pump 2 may be two-speed on some systems.

Light

Press “Light” to operate the spa light. Turns off after 4 hours.

Mode

Mode is changed by pressing “Warm” or “Cool”, then pressing “Mode”. **Standard Mode** maintains set temperature. Std will be displayed momentarily when you switch into Standard Mode. **Economy Mode** heats the spa to the set temperature only during filter cycles. Ecn will display when water temp is not current, and will alternate with water temp when the pump is running. **Sleep Mode** heats the spa to within 20°F/10°C of the set temperature only during filter cycles. SLP will display when water temp is not current, and will alternate with water temp when the pump is running.

Preset Filter Cycles

The first preset filter cycle begins 6 minutes after the spa is energized. The second preset filter cycle begins 12 hours later. Filter duration is programmable for 2, 4, 6, or 8 hours or for continuous filtration (indicated by FILC). The default filter time is 2 hours for non-circ systems and 4 hours for circ systems. To program, press “Warm” or “Cool”, then “Jets 1”. Press “Warm” or “Cool” to adjust. Press “Jets 1” to exit programming. For non-circ systems, low-speed pump 1 and the ozone generator (if installed) run during filtration. For circulation systems, the circ pump and the ozone generator (if installed) run 24 hours. In hot environments, the circ pump may turn off for 30 minute periods, except during filter cycles. At the beginning of each filter cycle all other equipment will run briefly to purge the plumbing.

The Spa Screen and Shortcut Screen

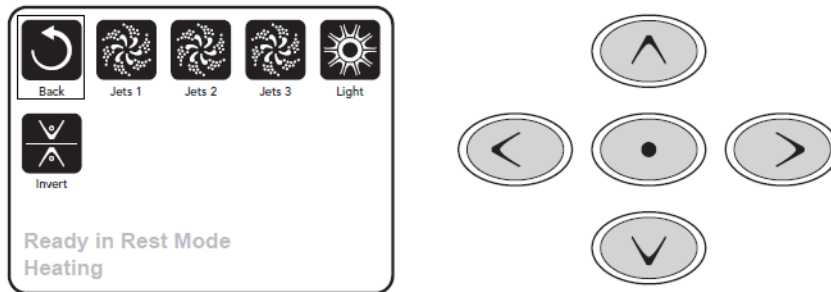
All Equipment Access

The Spa Screen shows all available equipment to control, as well as other features, like Invert, in one easy-to-navigate screen. The display shows icons that are related to the equipment installed on a particular spa model, so this screen may change depending on the installation. The navigation buttons are used to select an individual device. The device that is chosen is highlighted with a white outline and the text under the icon changes to white. Once a device is selected, it can be controlled using the center Select Button. Some devices, like pumps, may have more than one ON state, so the icon will change to reflect the state that the equipment is in. Below are some examples of 2-speed Pump indicators.



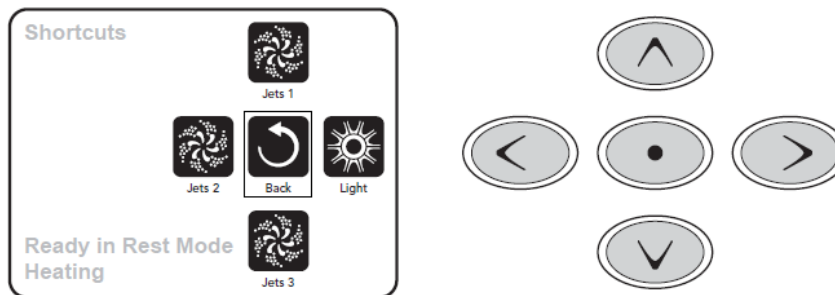
If the Spa has a Circ Pump, a Circ Pump Icon will appear to indicate its activity, but outside of Priming Mode, the Circ Pump cannot be controlled directly.

NOTE: The icon for the pump that is associated with the heater (Circ or P1 Low) will have a red glow in the center when the heater is running.



One-Press Activation

The Shortcut Screen requires no navigation. Each button is fixed on a specific function and can be used as a very simple user interface for the spa. Each button function is illustrated in the display and mapped according to the manufacturer's instructions.



The Settings Screen

Pressing a "Button"

When instructions are given to "press a button" any of the following can be done:

- Navigate to the desired item on any Screen. When the desired item is highlighted, press the Select Button.
- Press the button for that device while on the Shortcuts Screen, if the device is one of the 4 functions available.

Saving Settings

The Time of day screen is a simple, editable screen that illustrates a feature of the control that applies to all other editable screens as well. When changes are made, the icon to go “Back” changes to “Save” and a new icon for “Cancel” appears under the Save icon. Navigating to the left will highlight the Save icon, and navigating down from there will allow the user to cancel the pending change. Pressing the “Select” button will save or cancel the changes and go back to the previous screen.



Note:

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

Adjusting Filtration

Main Filtration

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



Filter Cycle 2 - Optional Filtration

Filter Cycle 2 is OFF by default. Simply navigate to the Filter Cycle 2 line by pressing the Right Navigation Button, and when “NO” is highlighted, press Up or Down to toggle Filter Cycle 2 on and off. When Filter Cycle 2 is ON, it can be adjusted in the same manner as Filter Cycle 1 by navigating to the right. It is possible to overlap Filter Cycle 1 and Filter Cycle 2, which will shorten overall filtration by the overlap amount.

Circulation Pump Modes

Some spas may be manufactured with Circ Pump settings that allow programming filtration cycle duration. Some circ Modes are pre-programmed to operate 24 hours a day and are not programmable.

Purge Cycles

In order to maintain sanitary conditions, as well as protect against freezing, secondary water devices will purge water from their respective plumbing by running briefly at the beginning of each filter cycle. If the Filter Cycle 1 duration is set for 24 hours, enabling Filter Cycle 2 will initiate a purge when Filter Cycle 2 is programmed to begin.

Utilities

The Utilities Menu contains the following:

A/B Temps

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

Demo Mode

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

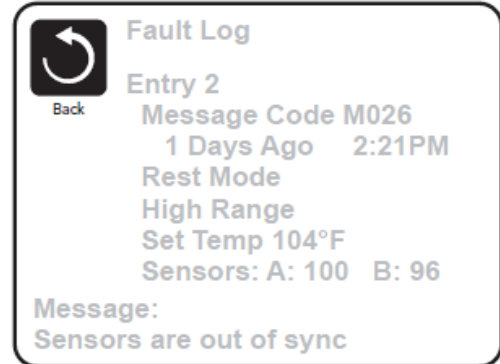
Fault Log

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

GFCI Test

(Feature not available on CE rated systems.)

GFCI Test is not always enabled, so it may not appear. This screen allows the GFCI to be tested manually from the panel and can be used to reset the automatic test feature. If the GFCI Test Feature is reset, the device will trip within 7 days. *M036 is a Message Code. Codes like this will be seen in the Fault Log.



Additional Settings

Preferences

The Preferences Menu allows the user to change certain parameters based on personal preference.

Temp Display

Change the temperature between Fahrenheit and Celsius.

Time Display

Change the clock between 12 hr and 24 hr display.

Reminders

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

Cleanup

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

Dolphin II and Dolphin III (Applies to RF Dolphin only)

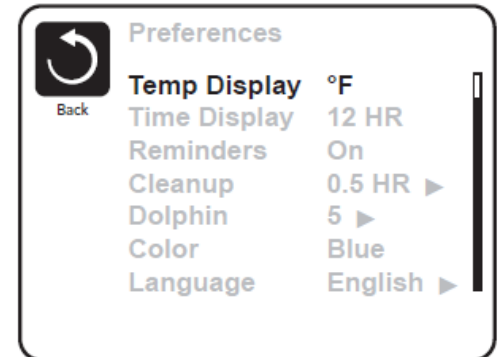
When set to 0, no addressing is used. Use this setting for a Dolphin II or Dolphin III which is factory set for no address by default. When set between 1 and 7, the number is the address. (See the Dolphin manual for details.)

Color

Pressing the Select Button when Color is highlighted will cycle through 5 background colors available in the control.

Language

Change the language displayed on the panel.



Utilities – GFCI Test Feature

The Ground Fault Circuit Interrupter (GFCI) or Residual Current Detector (RCD) is an important safety device and is required equipment on a hot tub installation.

(The GFCI Test Feature is not available on CE rated systems.) Used for verifying a proper installation

Your spa may be equipped with a GFCI Protection feature. If your spa has this feature enabled by the manufacturer, the GFCI Trip Test must occur to allow proper spa function. Within 1 to 7 days after startup, the spa will trip the GFCI to test it. (The number of days is factory programmed.) The GFCI must be reset once it has tripped. After passing the GFCI Trip Test, any subsequent GFCI trips will indicate a ground fault or other unsafe condition and the power to the spa must be shut off until a service person can correct the problem.

Forcing the GFCI Trip Test (North America Only)

The installer can cause the GFCI Trip Test to occur sooner by initiating it using the above menu. The GFCI should trip within several seconds and the spa should shut down. If it does not, shut down the power and manually verify that a GFCI breaker is installed and that the circuit and spa are wired correctly. Verify the function of the GFCI with its own test button. Restore power to the spa and repeat the GFCI Trip Test. Once the GFCI is tripped by the test, reset the GFCI and the spa will operate normally from that point. You can verify a successful test by navigating to the above menu. PASS should appear after a temp button is pressed from the GFCI screen.

Warning:

The end user must be trained to expect this one-time test to occur and how to properly reset the GFCI. If freezing conditions exist, the GFCI or RCD should be reset immediately or spa damage could result.

CE Product:

CE registered systems do not have an RCD Test Feature due to the nature of the electrical service. Some UL registered systems do not have the GFCI Test Feature activated. The end user must be trained how to properly test and reset the RCD.

Sensor-Related Messages

Sensors are out of sync – M015

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

Sensors are out of sync – Call for service* – M026

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

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

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

Miscellaneous Messages

Communications error

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

Test software installed

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

°F or °C is replaced by °T

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

System-Related Messages

Program memory failure* – M022

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

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

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

The clock has failed* – M020

Contact your dealer or service organization.

Configuration error (Spa will not Start Up)

Contact your dealer or service organization.

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

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

A pump may be stuck on – M034

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

Hot fault – M035

A Pump Appears to have been Stuck ON when spa was last powered POWER DOWN THE SPA. DO NOT ENTER THE WATER. Contact your dealer or service organization.

M0XX numbers are Message Codes.

*This message can be reset from the topside panel.

Common Buttons

Exiting Screens

When you see both of these buttons, whether they are labeled or not, they always mean Save and Cancel. They appear on most editing screens once you have changed the value on that screen.

If the screen times out due to no activity it will act like Cancel. When you see only this button, whether it is labeled or not, it means Back or Exit. It appears on editing screens before you have changed any value, as well as on all other screens.

Page Up/Down

If an Up or Down button is shown and pressed when in a Menu List, the list can be scrolled a page at a time. The scroll bar on the right side of the screen indicates the relative position of the page.

Values Increment/Decrement

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

The Settings Screen

Programming, Etc.

The Settings Screen is where all programming and other spa behaviors are controlled. This screen has several features that can be acted on directly. These features may include Temp Range, Heat Mode, Hold, and Invert Panel. When one of these items is selected, it will toggle between two settings. All other menu items (with an arrow pointing to the right) go to another level in the menu.

Dual Temperature Ranges (High vs. Low)

This system incorporates two temperature range settings with independent set temperatures. The specific range can be selected on the Settings screen and is visible on the Main Screen in the upper right corner of the display. These ranges can be used for various reasons, with a common use being a “ready to use” setting vs. a “vacation” setting. Each range maintains its own set temperature as programmed by the user. This way, when a range is chosen, the spa will heat to the set temperature associated with that range.

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

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

More specific Temp Ranges may be determined by the Manufacturer.

Freeze Protection is active in either range.

Fill it up!

Preparation and Filling

Fill the spa to its correct operating level. Be sure to open all valves and jets in the plumbing system before filling to allow as much air as possible to escape from the plumbing and the control system during the filling process. After turning the power on at the main power panel, the top-side panel will display a splash screen or startup screen.

Priming Mode – M019*

After the initial start-up sequence, the control will enter Priming Mode and display a Priming Mode screen. Only pump icons appear on the priming mode screen. During the priming mode, the heater is disabled to allow the priming process to be completed without the possibility of energizing the heater under low-flow or no-flow conditions. Nothing comes on automatically, but the pump(s) can be energized by selecting the “Jet” buttons. If the spa has a Circ Pump, it can be turned on and off by pressing the “Circ Pump” button during Priming Mode.

Priming the Pumps

As soon as the Priming Mode screen appears on the panel, select the “Jets 1” button once to start Pump 1 in low-speed and then again to switch to high-speed. Also, select the other pumps, to turn them on. The pumps should be running in high-speed to facilitate priming. If the pumps have not primed after 2 minutes, and water is not flowing from the jets in the spa, do not allow the pumps to continue to run. Turn off the pumps and repeat the process.

Note: Turning the power off and back on again will initiate a new pump priming session. Sometimes momentarily turning the pump off and on will help it to prime. Do not do this more than 5 times. If the pump(s) will not prime, shut off the power to the spa and call for service. Important: A pump should not be allowed to run without priming for more than 2 minutes. Under NO circumstances should a pump be allowed to run without priming beyond the end of the 4-5 minute priming mode. Doing so may cause damage to the pump and cause the system to energize the heater and go into an overheat condition.

Exiting Priming Mode

The system will automatically enter the normal heating and filtering at the end of the priming mode, which lasts 4-5 minutes. You can manually exit Priming Mode by pressing the “Exit” button on the Priming Mode Screen. Note that if you do not manually exit the priming mode as described above, the priming mode will be automatically terminated after 4-5 minutes. Be sure that the pump(s) have been primed by this time. Once the system has exited Priming Mode, the top-side panel will display the Main Screen, but the display will not show the temperature yet, as shown below. This is because the system requires approximately 1 minute of water flowing through the heater to determine the water temperature and display it.

Spa Behavior

Pumps

On the Spa Screen, select a “Jets” button once to turn the pump on or off, and to shift between low- and high-speeds if equipped. If left running, the pump will turn off after a time-out period.

Non-Circ Systems

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

Circulation Pump Modes

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

1. The circ pump operates continuously (24 hours) with the exception of turning off for 30 minutes at a time when the water temperature reaches 3°F (1.5°C) above the set temperature (most likely to happen in very hot climates).
2. The circ pump stays on continuously, regardless of water temperature.
3. A programmable circ pump will come on when the system is checking temperature (polling), during filter cycles, during freeze conditions, or when another pump is on. The specific Circulation Mode that is used has been determined by the Manufacturer and cannot be changed in the field. Other device options may be available, like Blower, Light, Mister, etc.

Filtration and Ozone

On non-circ systems, Pump 1 low and the ozone generator will run during filtration. On circ systems, the ozone will generally run with the circ pump, but can be limited to filtration cycles. The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower. The filter time and duration are programmable. A second filter cycle can be enabled as needed. At the start of each filter cycle, the water devices like blower, mister device (if these exist) and other pumps will run briefly to purge the plumbing to maintain good water quality.

Freeze Protection

If the temperature sensors within the heater detect a low enough temperature, then the water devices automatically activate to provide freeze protection. The water devices will run either continuously or periodically depending on conditions. In colder climates, an optional freeze sensor may be added to protect against freeze conditions that may not be sensed by the standard sensors. Auxiliary freeze sensor protection acts similarly except with the temperature thresholds determined by the switch. See your dealer for details.

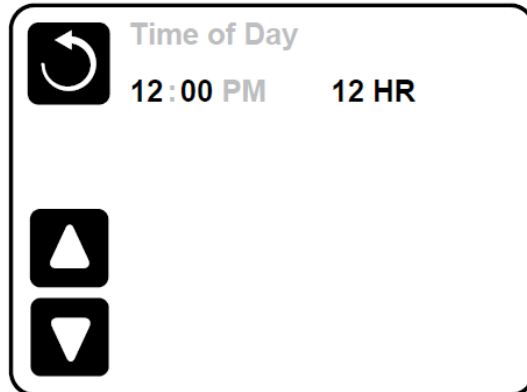
Clean-up Cycle (optional)

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

Time-of-Day

Be sure to set the Time-of-Day

Setting the time-of-day is important for determining filtration times and other background features. “Set Time” will appear on the display if no time-of-day is set in the memory. On the Settings Screen, select the Time-of-Day line. On the Time-of-Day screen, simply select the Hour, Minutes, and 12/24 Hour segments. Use the Up and Down Buttons to make changes.



Note:

This only applies to some systems:

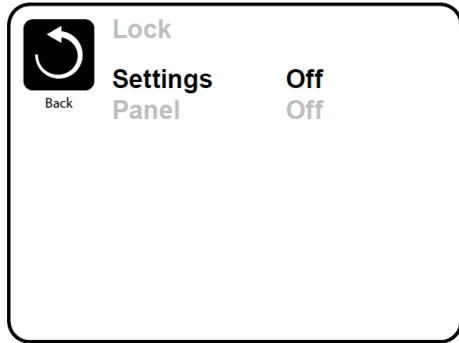
If power is interrupted to the system, Time-of-Day will be maintained for several days.

Adjusting Filtration

Main Filtration

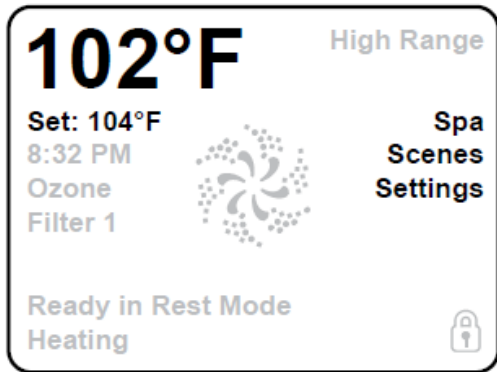
Using the same adjustment as Setting the Time, Filter Cycles are set using a start time and a duration. Each setting can be adjusted in 15-minute increments. The panel calculates the end time and displays it automatically.

Restricting Operation



The control can be restricted to prevent unwanted use or temperature adjustments. Locking the Panel prevents the controller from being used, but all automatic functions are still active. Locking the Settings allows Jets and other features to be used, but the Set Temperature and other programmed settings cannot be adjusted. Settings Lock allows access to a reduced selection of menu items. These include Filter Cycles, Invert, Information and Fault Log. They can be seen, but not changed or edited.

Settings Locked

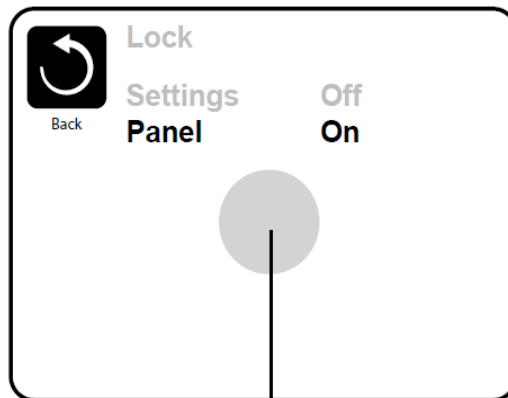


Panel Locked



Unlocking

To unlock either Settings or Panel first select Settings (if it says "On") or Panel (if it says "On"), then press in the middle of the screen for at least 5 seconds.



Press here for 5 seconds to unlock

Information

System Information

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

Software ID (SSID)

Displays the software ID number for the System.

System Model

Displays the Model Number of the System.

Current Setup

Displays the currently selected Configuration Setup Number.

Configuration Signature

Displays the checksum for the system configuration file.

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).

Heater Type

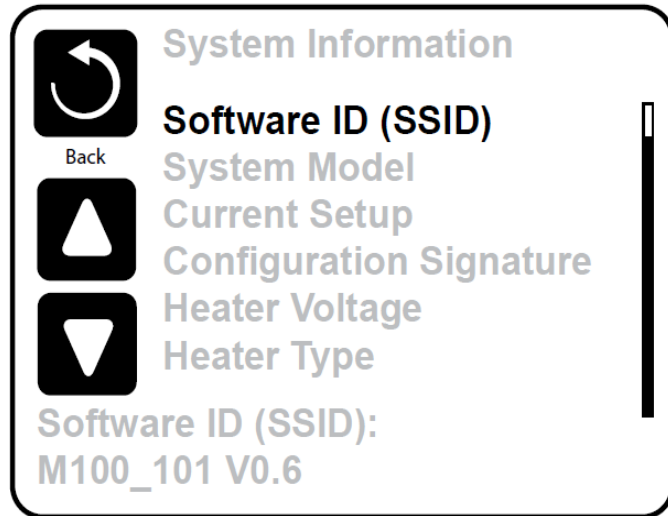
Displays a heater type ID number.

Dip Switch Settings

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

Panel Version

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



Sensor-Related Messages

Sensors are out of sync – M015**

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

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

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

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

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

Miscellaneous Messages

Communications error

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

Test software installed

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

°F or °C is replaced by °T

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

* *Some messages can be reset from the panel.* Messages that can be reset will appear with a “right arrow” at the end of the message. Press the message text to reset the message.

**M0XX is a Message Code. Codes like this will be seen in the Fault Log

Reminder Messages

Test the GFCI (or RCD)

May appear on a regular schedule, i.e. every 30 days. The GFCI or 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.

Change the water

May appear on a regular schedule, i.e. every 90 days. Change the water in the spa on regular basis to maintain proper chemical balance and sanitary conditions.

Clean the cover

May appear on a regular schedule, i.e. every 180 days. Vinyl covers should be cleaned and conditioned for maximum life.

Treat the wood

May appear on a regular schedule, i.e. every 180 days. Wood skirting and furniture should be cleaned and conditioned per the manufacturers instructions for maximum life.

Change the filter

May appear on a regular schedule, i.e. every 365 days. Filters should be replaced occasionally to maintain proper spa function and sanitary conditions.

Additional messages may appear on specific systems.

Reminder messages can be reset from the panel. Messages that can be reset will appear with a “right arrow” at the end of the message. Press the message text to reset the message.

Warning! Qualified Technician Required for Service and Installation

Basic Installation and Configuration Guidelines

Use minimum 6AWG copper conductors only. Torque field connections between 21 and 23 in lbs. Readily accessible disconnecting means to be provided at time of installation. Permanently connected power supply. Connect only to a circuit protected by a Class A Ground Fault Circuit Interrupter (GFCI) or Residual Current Device (RCD) mounted at least 5' (1.52M) from the inside walls of the spa/hot tub and in line of sight from the equipment compartment.

CSA enclosure: Type 2

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

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

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

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

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

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

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

Warning: The equipment and controls shall be located no less than 1.5 meters horizontally from the spa or hot tub.

Warning! GFCI or RCD Protection.

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

Warning! Shock Hazard! No User Serviceable Parts.

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

- Disconnect the electric power before servicing. Keep access door closed.

CSA Compliance

Caution:

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

Warning:

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