

# SPAS

## Installation and Directions of Use



# Content

<b>I、</b>	<b>Warning .....</b>	<b>page2</b>
<b>II、</b>	<b>Control system usage instructions .....</b>	<b>page3</b>
<b>III、</b>	<b>Brief Introduction of All SPA Models.....</b>	<b>page30</b>
<b>IV、</b>	<b>Description on Using Parts.....</b>	<b>page31</b>
<b>V、</b>	<b>Description on Installation.....</b>	<b>page34</b>
<b>VI、</b>	<b>Care and Maintenance.....</b>	<b>page36</b>
<b>VII、</b>	<b>Instructions on Maintenance.....</b>	<b>page37</b>
<b>VIII、</b>	<b>Troubleshooting.....</b>	<b>page37</b>
<b>IX、</b>	<b>Warranty process.....</b>	<b>page38</b>

FR : SAV/INFORMATION /VIDEO/CONTACT

EN: AFTER-SALES SERVICE/INFORMATION/VIDEO/CONTACT

DE : REPARATUR-SERVICE UND ERSATZTEILE /INFORMATIONEN /VIDEO/KONTAKT

ES: SERVICIO POST-VENTA/INFORMACIÓN/VIDEO/CONTACTO

IT: SERVIZIO ASSISTENZA/INFORMAZIONI/VIDEO/CONTATTO

PT: SERVIÇO PÓS-VENDA/INFORMAÇÕES/VIDEO/CONTATO

PL: SERWIS TECHNICZNY/INFORMACJE/WIDEO/KONTAKT

NE: AFTER SALES SERVICE/INFORMATIE/VIDEO/CONTACT

HE: עם לתקשר/הווידיאו/ מידע/ומכירות שירות לארח

**SAV.HABITATETJARDIN**

## **1、 Warning :please read the following instructions before operation, which is a safety guaranty to SPA users.**

- 1、 The system must be installed by qualified technicians, switch for electricity leakage should be installed at the place convenient to be controlled.
- 2、 The bathtub must be installed to the floor for safety purpose, if not, we won't take responsibility for the lost of the bad grounding!
- 3、 Taking load capacity of the wires into consideration when installed, otherwise, this will impact normal function or even occur safety accidents!
- 4、 To ensure sanitation of SPA, those who have skin or infectious disease should not use it.
- 5、 All the jets, fountains cannot be shut down while keep water pumps working simultaneously, for this will damage the SPA heavily.
- 6、 The first time to use SPA, before filling in water, please check and shut all drain valves, and all the jets, water pumps must be highly tightened(they might be loose during transportation).
- 7、 The old, kids and those with heart disease and low/high blood pressure should use the SPA cautiously and under the care of the healthy adults; Without doctor's professional instruction, pregnant women cannot use the SPA.
- 8、 Risk: Under the state of alcohol, poison and drugs, it will be dangerous to use the SPA.
- 9、 Make sure that water slips out of jets regularly, or the relative components will be damaged.
- 10、 Protect from getting hurt, please check the water temperature to make sure if it is ok to use when using the SPA.
- 11、 SPA input water temperature should not be over 42 Celsius degrees so as not to get hurt; 30-40 Celsius degree is the safety scope for human body. When you have been in the SPA for over 10-15 minutes, please try to lower the water temperature.
- 12、 Before using the SPA drugs, please take the physical property into consideration, for example, granular or root-like drugs must be walled within filter bag.
- 13、 After finishing strenuous exercise please do not use the SPA right away.
- 14、 If feeling unwell when or after you used the SPA, please stop it right away and go to see the doctor.
- 15、 Do not move or open the lid of filter.
- 16、 Excessive Exposure to the sun for long will damage the SPA surface, when you are not going to use the SPA, please cover it up against the sunshine.
- 17、 If you use the SPA often, please wash the paper element filter for one time every week.
- 18、 The heat preservation cover is formed of foam, prevent kids playing on it.
- 19、 When filling in water, water should be 1cm over the probe screw when installed China control system, and water 1cm over all the jets when installed Balboa system.
- 20、 No water or water level doesn't reach the probe screw or over all the jets, do not operate the spa.
- 21、 If the spa not to use, please keep the maintenance doors locked well or tighten the screw.
- 22、 All the maintenance must be done after electricity has been cut off.
- 23、 After the repair work and maintenance, check if all the functions run well.
- 24、 In the very cold areas or seasons, please keep the SPA connected with electricity, filled with enough water in the SPA, so as to protect SPA from being frozen to be broken, or you can drain water completely and cover to seal it.
- 25、 All the preservation and maintenance must be done by qualified professionals . For more service, please contact the suppliers or sales agents.
- 26、 **The product must be permanently connected to the fixed wiring.**
- 27、 **Parts incorporating electrical components must be located or fixed so that they cannot fall into the bath.**
- 28、 **The product should be supplied through a residual current device (RCD) having a rated residual operated current not exceeding 30mA.**
- 29、 **If your SPA is placed in direct sunlight , as possible as you can, please avoid to place it on the glass floor or near the location of the glass wall , specular reflection effects can lead too high temperature on partial skirt which will cause skirt deformation.**
- 30、 **The bearing of the water pumps may get stuck after this SPA hasn't been used for a long time, so the water pumps may not working when pressing the water-pump buttons on control panel. If the water pump not working because of water bearing get stuck, then you can notice that no water current through jets or no suction- force in the skimmer. Please shut down the power ,open the hem doors, find out the water pumps, rotate the blade inside water pumps, turn on the power again, activate the water pumps by pressing the water-pump buttons several times.**
- 31、 **Sometimes, the water pumps may work or rotate slowly at the beginning and back to normal after working 2-3 seconds. If the water pumps still rotate slowly after 2-3 seconds, please press the water-pump buttons on panel to re-activate the pumps.**
- 32、 **When you notice the hum of the water pumps while pumps not working (no water current through jets) and overheating water pump surface, please shut down power immediately. It results from air kept inside of water pumps or pipes be block. Please check the water pumps and pipes, fix the problem , and turn on the power again.**
- 33、 **During installation of the SPA, please keep the whole construction area clean and clear .No mud or metal be left beneath the SPA tub body or near the water pumps. Keep sufficient space for dissipating heat of the working water pumps.**

## II、 Control system usage instructions

### (II-1)、 BP6013G1/G2/G3 Balboa Control System ( TP600 /TP400 control panel)



TP600 control panel



TP400 control panel

## TP400/600 Quick Reference Card

### Start Up

When the GFCI for the spa is switched on to supply power, a startup sequence of numbers will appear on the display. If no button is pressed, LINK will appear after the startup sequence. Press any button to link the panel with the system.

The spa will enter Priming Mode. After Linking, press the **Jets Button(s)**   to turn the pumps on and off to verify that all air is purged from the plumbing, particularly the plumbing associated with the heater. If the spa uses a circulation pump, the **Light**  Button turns the Circ Pump on an off during Priming Mode. Priming Mode will end automatically in 4 minutes. Pressing a **Temperature Button** will exit Priming Mode manually. When Priming Mode ends, Pump 1 low will start, if no circ pump is present, however the water temperature will not appear for a minute or so. Once the water temperature is recognized by the system, and if it is below the **Set Temperature**, the heater will start.



### Basic Operation

The **Up**  and **Down**  buttons are often referred to as **Temperature Buttons**. Some panels only have a single Temperature Button.

Press a **Temperature Button** once and the current **Set Temperature** will begin to flash on the LCD. (The Set Temperature and the actual water temperature are often different.) While the numbers are flashing, press a Temperature Button again to change the Set Temperature. Press-and-hold for faster adjustment. After the new Set Temperature stops flashing, in about 10 seconds, the actual temperature is displayed again and the new Set Temperature is programmed. The spa will now heat to the new Set Temperature as needed.

The **Light**  Button turns the Spa Light on and off and is also used in conjunctions with the Temperature Button(s) to navigate the system menus.

### Programming

Refer to the TP600 User Guide (40940) for detailed operation, programming and message instructions.

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

Pressing the Light button while the Set Temperature is flashing will enter the menus.

Pressing Light after that will proceed through the menu choices. Pressing a Temperature Button while any menu item is showing will either edit it directly or begin an editing sequence.

Depending on the screen displayed, waiting between 10 and 30 seconds will allow the panel to return to normal operation and a display of spa status.

## Filtration

The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower. The filter time and duration are programmable. Refer to the TP600 User Guide (40940) for detailed instructions.

A second filter cycle can be enabled as needed.

## Dual Temperature Ranges

This system incorporates two temperature range settings with independent set temperatures. The **High Range** is indicated in the display **RANGE▲** and might be set between 80° F and 104° F. The **Low Range** is indicated in the display **RANGE▼** and might be set between 50° F and 99° F. Low Range may be economical during non-use periods. More specific temperature ranges, such as 50° F to 79° F for low range, or 90° F to 104° F for High Range, may be determined by the manufacturer.

## Ready and Rest Modes

If the filtration pump is a 2-Speed Pump 1, **READY** Mode will circulate water every 1/2 hour, using Pump 1 Low, in order to maintain a constant water temperature, heat as needed, and refresh the temperature display. This is known as “polling.” **REST** Mode will only allow heating during programmed filter cycles. Since polling does not occur, the temperature display may not show a current temperature until the filtration pump has been running for a minute or two. **READY/REST** Mode may appear when Jets 1 is activated.

## Complete Reference

Download the complete User Interface and Programming Guide at [http://service.balboa-instruments.com/zz40940\\_download.zip](http://service.balboa-instruments.com/zz40940_download.zip)

## User Interface and Programming Reference – Standard Menus

System Model: BP-Series Systems are BP5XX, BP6XX, BP1XXX, BP2XXX.

Software Version: 7.0 and later

Panel Model: TP600 Series TP400 Series

Software Version: 2.3 or later 2.4 or later

### 1. First Start-up

Navigating the entire menu structure is done with 2 or 3 buttons on the control panel. Some panels have separate WARM (Up) and COOL (Down) buttons, while others have a single Temperature button. In the navigation diagrams Temperature buttons are indicated by a single button icon.

Panels that have two Temperature buttons (Warm and Cool) can use both of them to simplify navigation and programming where a single Temperature icon is shown. The LIGHT Button is also used to choose the various menus and navigate each section. Typical use of the Temperature button(s) allows changing the Set Temperature while the numbers are flashing in the LCD. Pressing the LIGHT button while the numbers are flashing will enter the menus. The menus can be exited with certain button presses. Simply waiting for several seconds will return the panel operation to normal.

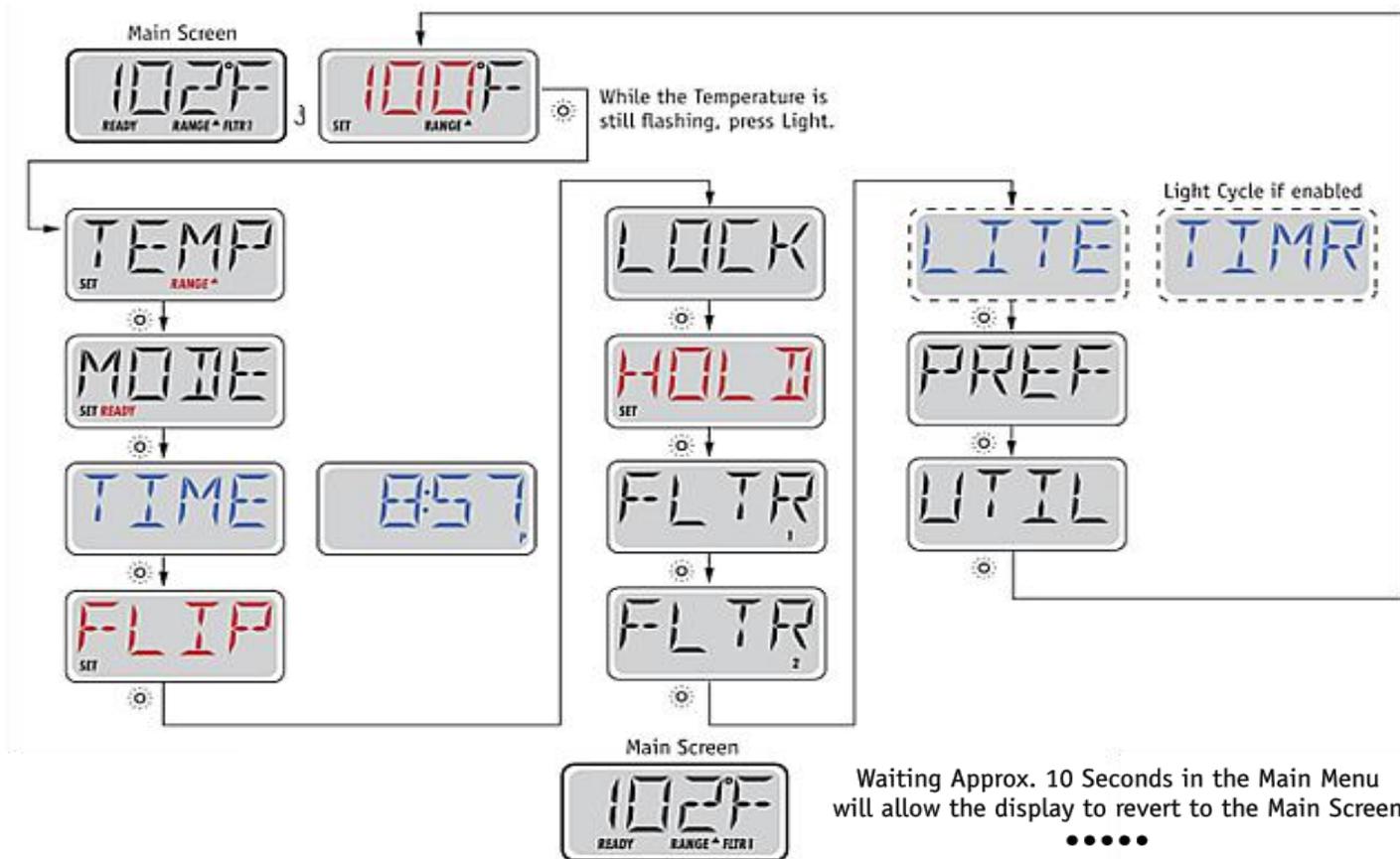
### Power-up Screens

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



After the startup sequence of numbers, LINK will appear if no button has been pressed. Press any button to Link the Panel with the System.

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message-every 1/2 second
- ⌋ A temperature button,used for “Action”
- ⊙: Light or dedicated “Choose” button, depending on control panel configuration
- Waiting time-varies depending on function



## 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, or startup screen.

### Priming Mode – M019\*

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



Regardless of whether the priming mode ends automatically or you manually exit the priming mode, the system will automatically return to normal heating and filtering at the end of the priming mode. During the priming mode, the heater is disabled to allow the priming process to be completed without the possibility of energizing the heater under low-flow or no-flow conditions. Nothing comes on automatically, but the pump(s) can be energized by 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 pump

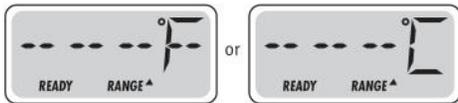
As soon as the Priming Mode screen appears on the panel, select the “Jets 1” button once to start Pump 1 in low-speed and then again to switch to high-speed. Also, select the other pumps, to turn them on. The pumps should be running in high-speed to facilitate priming. If the pumps have not primed after 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.

## Exit Priming Mode

You can manually exit Priming Mode by navigating to the “Back” 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.



\*M019 is a Message Code. See Page .

## (2)SPA Behaviour

### Pump

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. The pump 1 low-speed will time out after 30 minutes. The high-speed will time-out after 15 minutes.

On non-circ systems, the low-speed of pump 1 runs when the blower or any other pump is on. If the spa is in Ready Mode, 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.

### Air Pump

Press the air pump button “  ” once to turn the device on or off.

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

## **Clean-up Cycle(Optional)**

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

## **(3)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. 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

The temperature can be set between 60° F and 104° F.

### **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 Range**

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

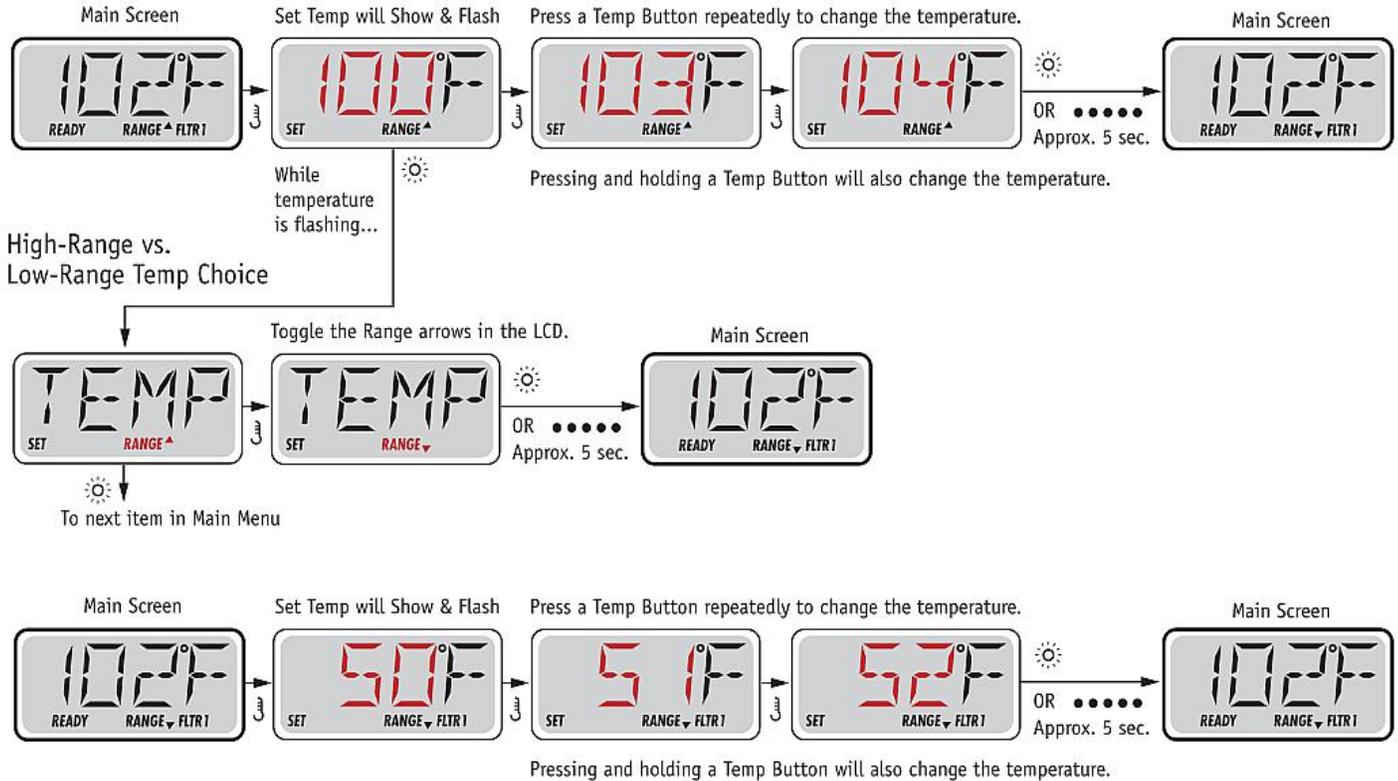
These ranges can be used for various reasons, with a common use being a "ready to use" setting vs. a "vacation" setting.

The Ranges are chosen using the menu structure below. Each range maintains its own set temperature as programmed by the user. This way, when a range is chosen, the spa will heat to the set temperature associated with that range. 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. See Ready and Rest, for additional heating control information.

### Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message-every 1/2 second
- ⌋ A temperature button,used for “Action”
- ☉ Light or dedicated “Choose” button, depending on control panel configuration
- Waiting time-varies depending on function



### (4) Mode - Ready and Rest

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

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

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

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

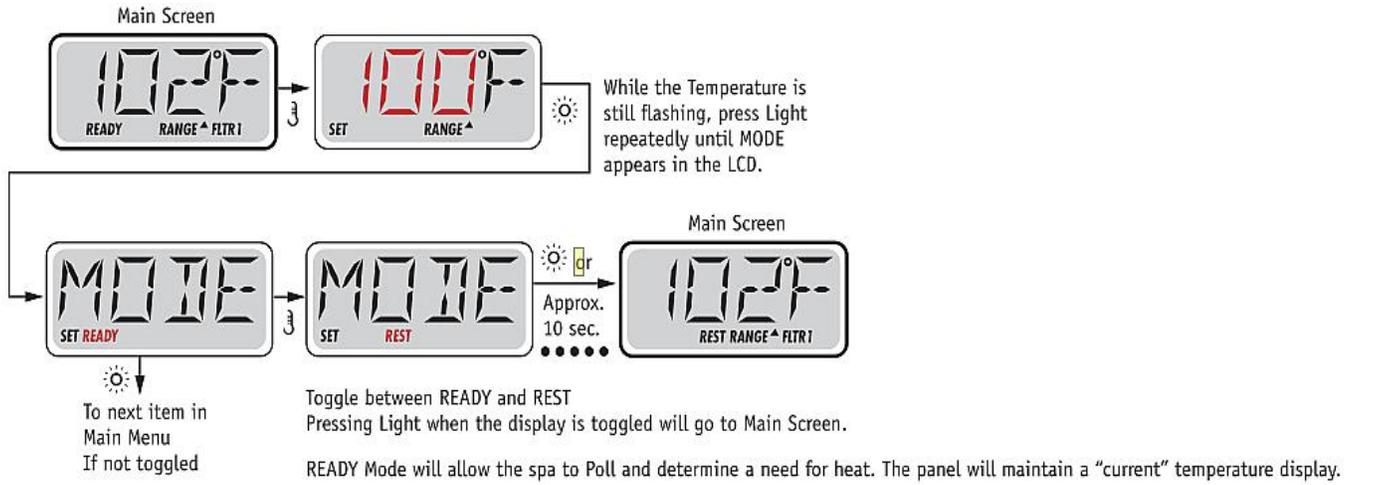
Circulation Mode (under Pumps, for other circulation modes)

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

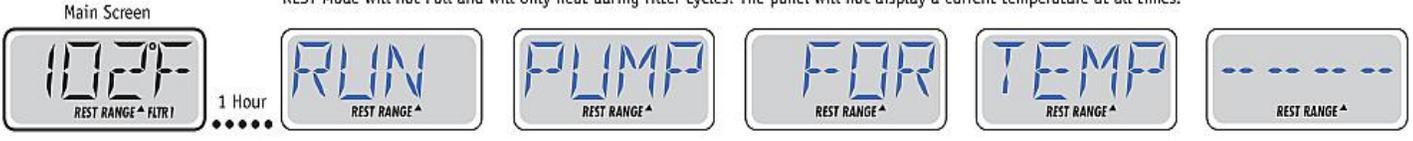
In Rest Mode, the spa will only heat to set temperature during programmed filter times, even though the water is being filtered constantly when in Circulation Mode.

### Key

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message-every 1/2 second
- ⌋ A temperature button,used for “Action”
- ☉ Light or dedicated “Choose” button, depending on control panel configuration
- Waiting time-varies depending on function



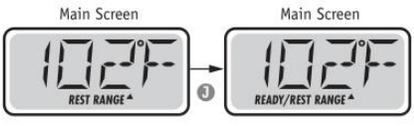
READY Mode will allow the spa to Poll and determine a need for heat. The panel will maintain a “current” temperature display.  
 REST Mode will not Poll and will only heat during filter cycles. The panel will not display a current temperature at all times.



The Main Screen will display RUN PUMP FOR TEMP if the filtration pump has not run for over 1 hour.  
 The Main Screen will display normally during Filter Cycles or when the spa is in use.  
 If the filtration pump has been off for an hour or more, when any function button, EXCEPT Light, is pressed on the panel, the pump used in conjunction with the heater will run so that temperature can be sensed and displayed.

### Ready-in-Rest Mode

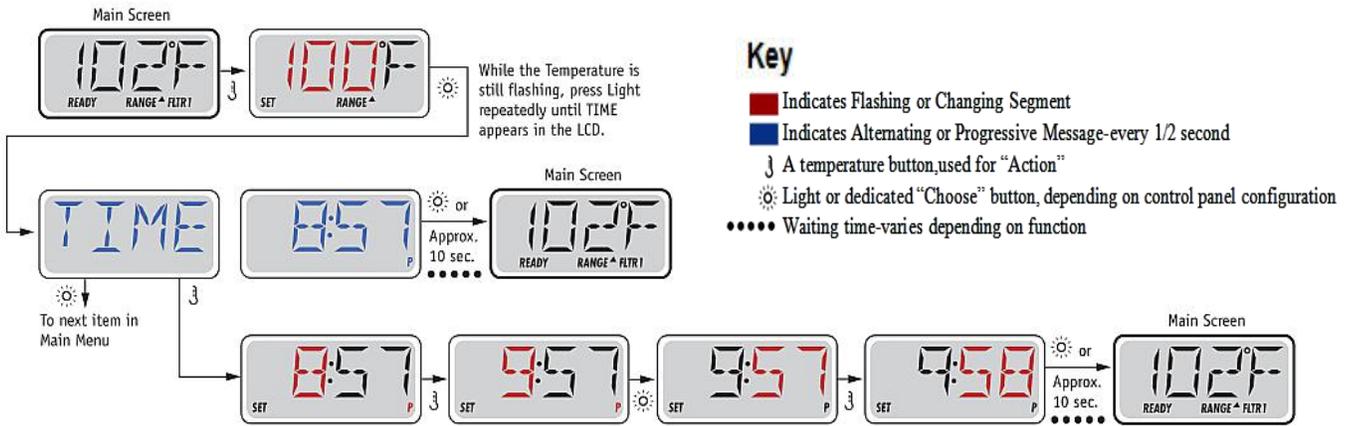
READY/REST appears in the display if the spa is in Rest Mode and Jet 1 is pressed. It is assumed that the spa is being used and will heat to set temperature. While Pump 1 High can be turned on and off, Pump 1 Low will run until set temperature is reached, or 1 hour has passed. After 1 hour, the System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



### (5) Show and Set Time-of-Day

**Be sure to set the time-of-day**

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





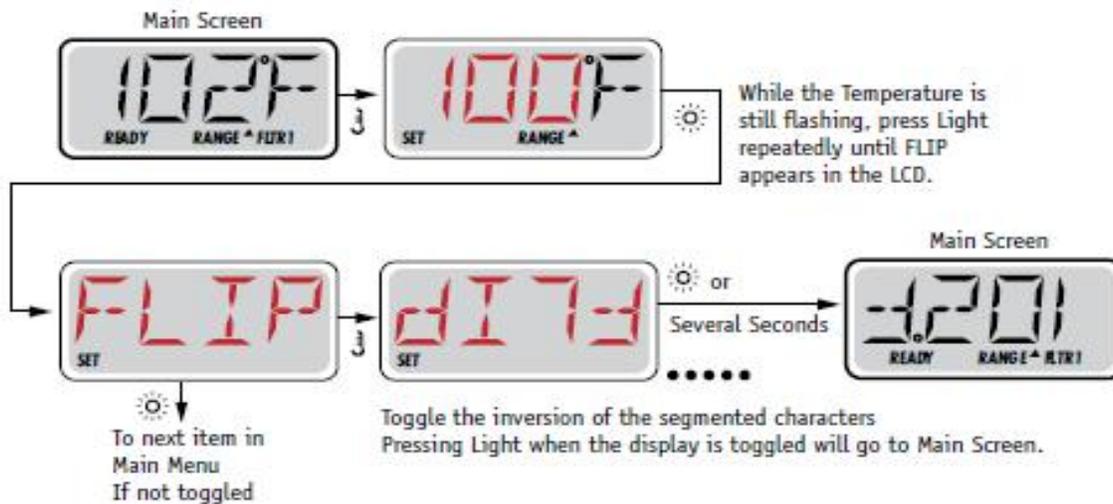
If Time of Day is not actually programmed due to a power cycle, SET TIME will appear in the menu instead of just TIME.

**Note:**

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

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

**Flip (Invert Display)**



**Note:**

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

**(6)Restricting and Operation**

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

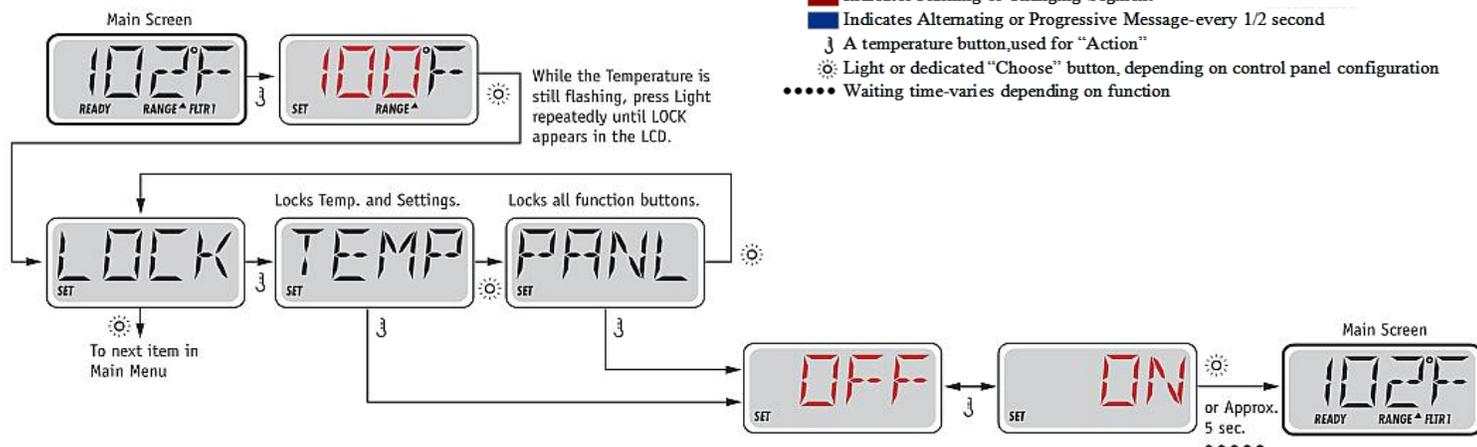
Locking the panel prevents the controller from being used, but all automatic functions are still active.

Locking the temperature allows JETS1 and JETS2 and other features to be used, but the Set Temperature and other programmed settings can not be adjusted

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

## Key

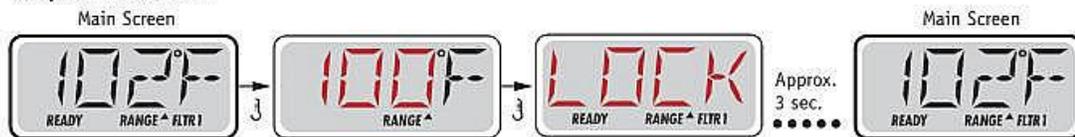
- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message-every 1/2 second
- ⌋ A temperature button, used for "Action"
- ☼ Light or dedicated "Choose" button, depending on control panel configuration
- Waiting time-varies depending on function



### Panel Locked



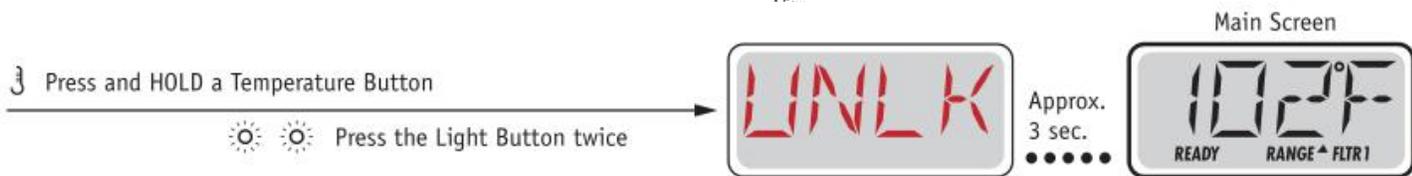
### Temperature Locked



When the Temperature is locked, the panel will display the Set Temperature by pressing a Temperature Button, as usual. 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.

## (7)Unlocking

This unlock sequence may be used from any screen that may be display 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.

## Hold (Standby)

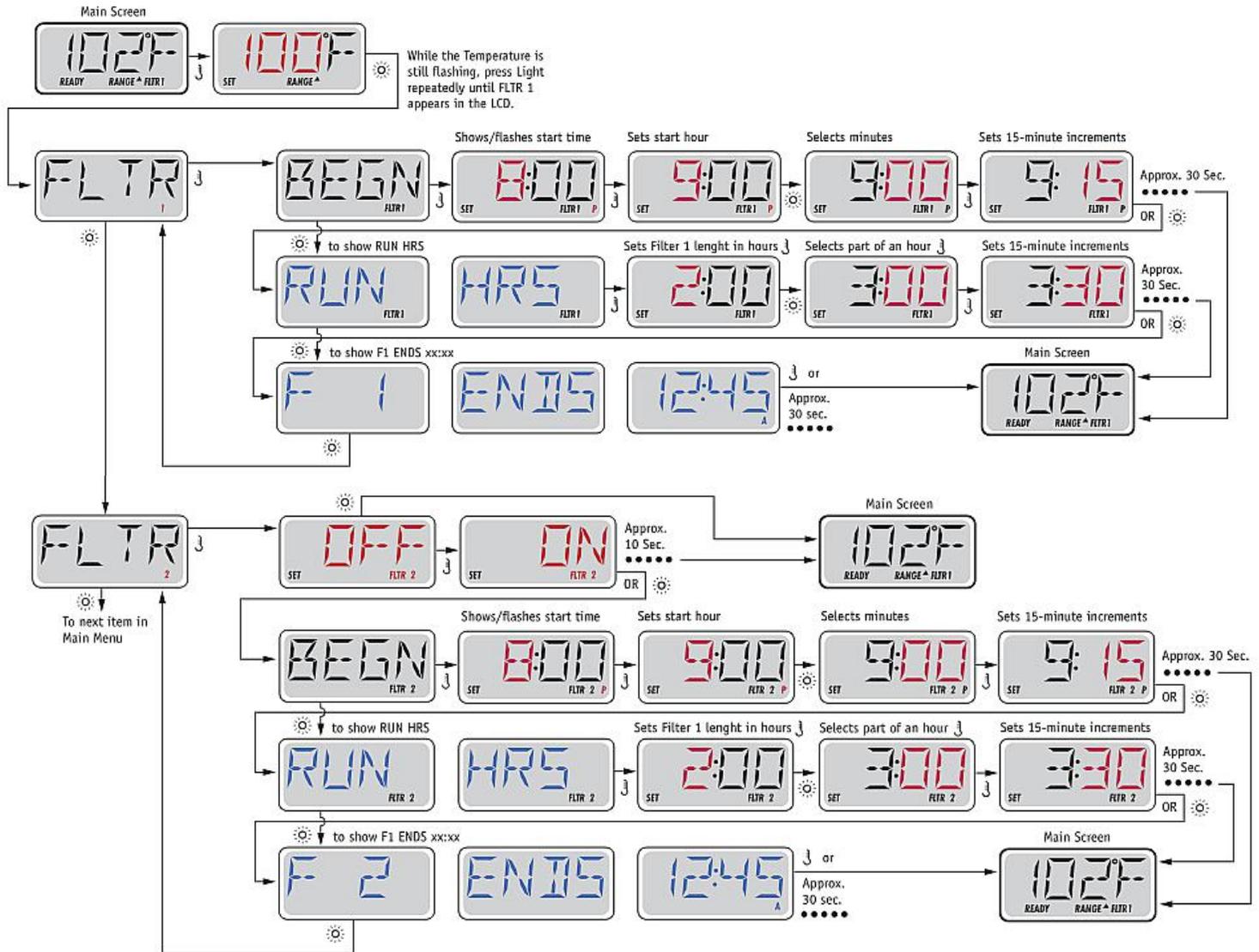
### Hold Mode - M037\*

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

## Drain Mode

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





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

## (9) Light Timer Programming

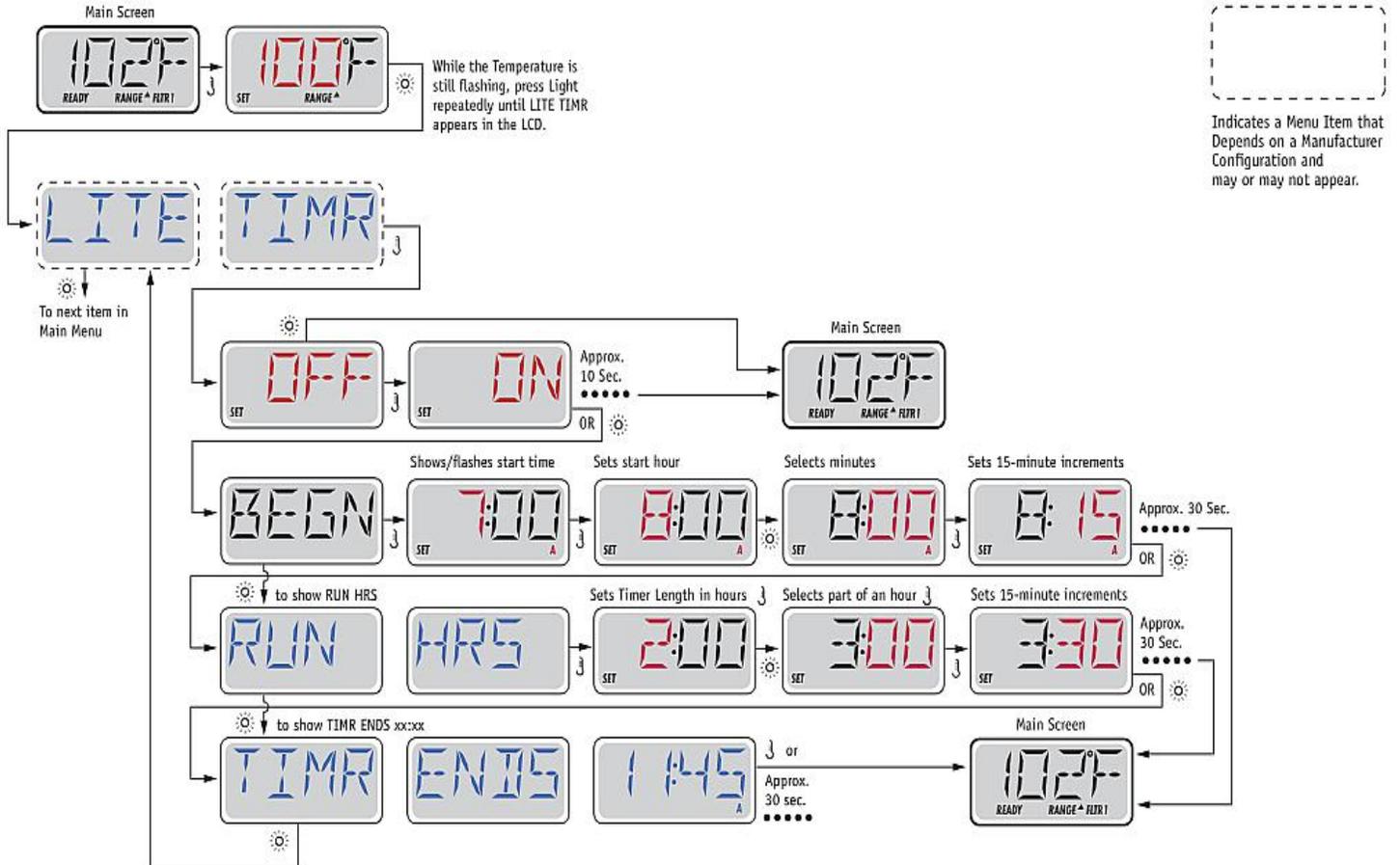
### Light Timer Option

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

When available, the Light Timer is OFF by default.

## Key

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



## Preferences

### F / C (Temp Display)

Change the temperature between Fahrenheit and Celsius.

### 12 / 24 (Time Display)

Change the clock between 12 hr and 24 hr display.

### RE-MIN-DERS (Reminders)

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

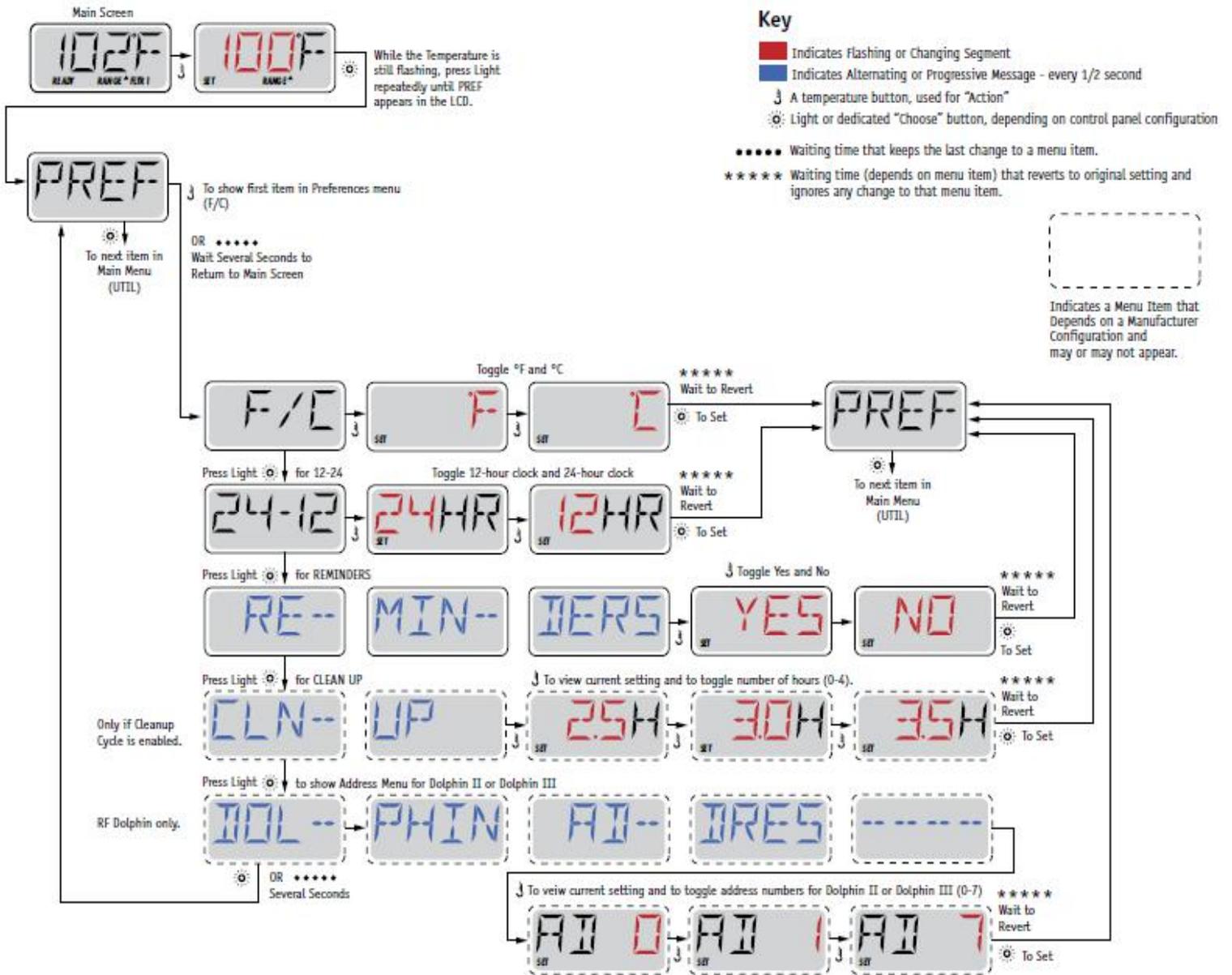
### CLN-UP (Cleanup)

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

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

**(This message may not appear depending on the configuration)**

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



**(10) Utilities and Information**

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

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

**SSID (Software ID)**

Displays the software ID number for the System.

**MODL (System Model)**

Displays the Model Number of the System.

**SETP (Current Setup)**

Displays the currently selected Configuration Setup Number.

### **SIG (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).

### **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.

## **Additional Utilities**

### **Utilities**

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

### **GFCI (GFCI Test)**

#### **(Feature not available on CE rated systems.)**

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

### **A / B (A/B Sensor Temperatures)**

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

### **FALT LOG (Fault Log)**

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

### **DEMO (Demo Mode)**

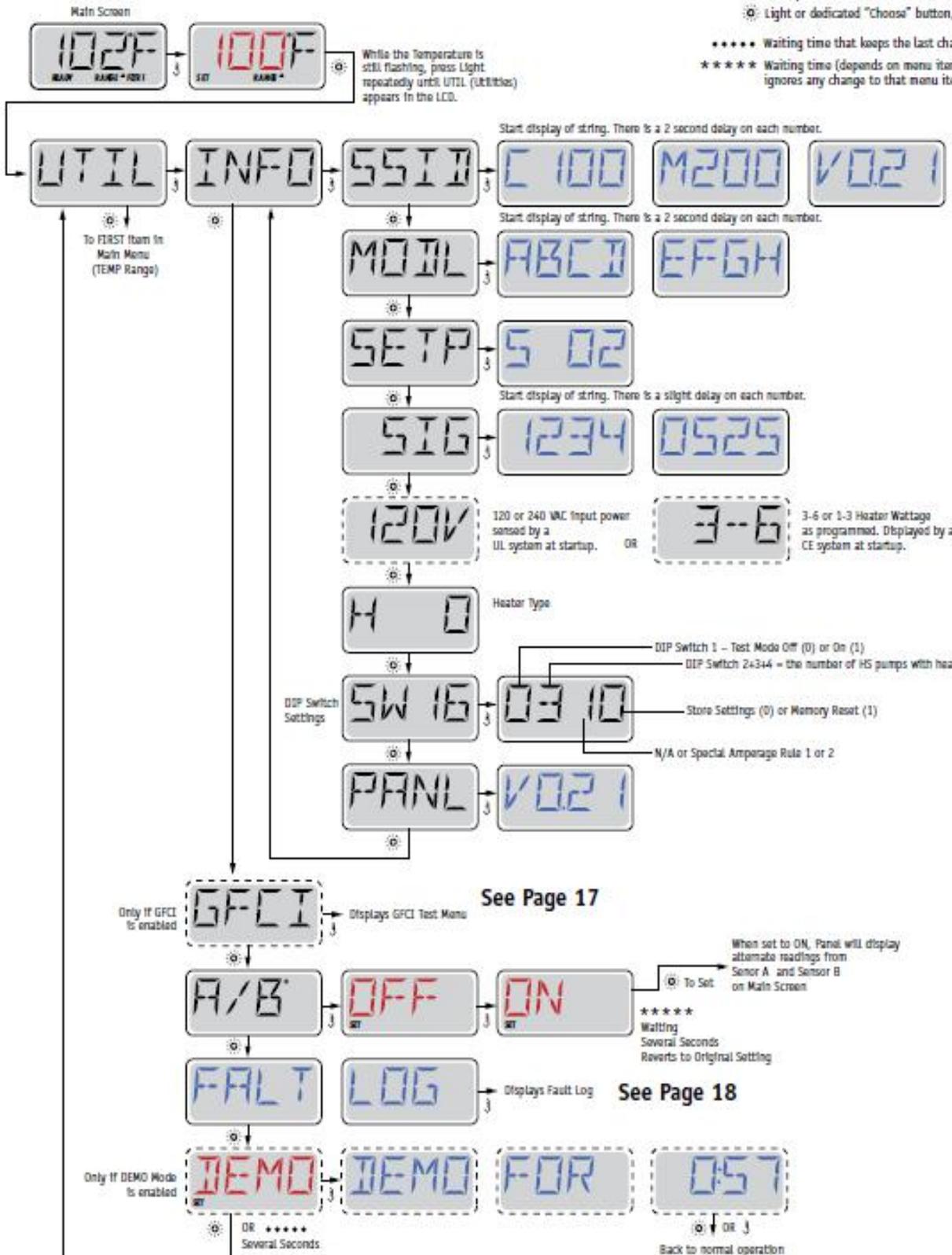
Demo Mode is not always enabled, so it may not appear. This is designed to operate several devices in a sequence in order to demonstrate the various features of a particular hot tub.

# Utilities

## Key

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

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





## Warning:

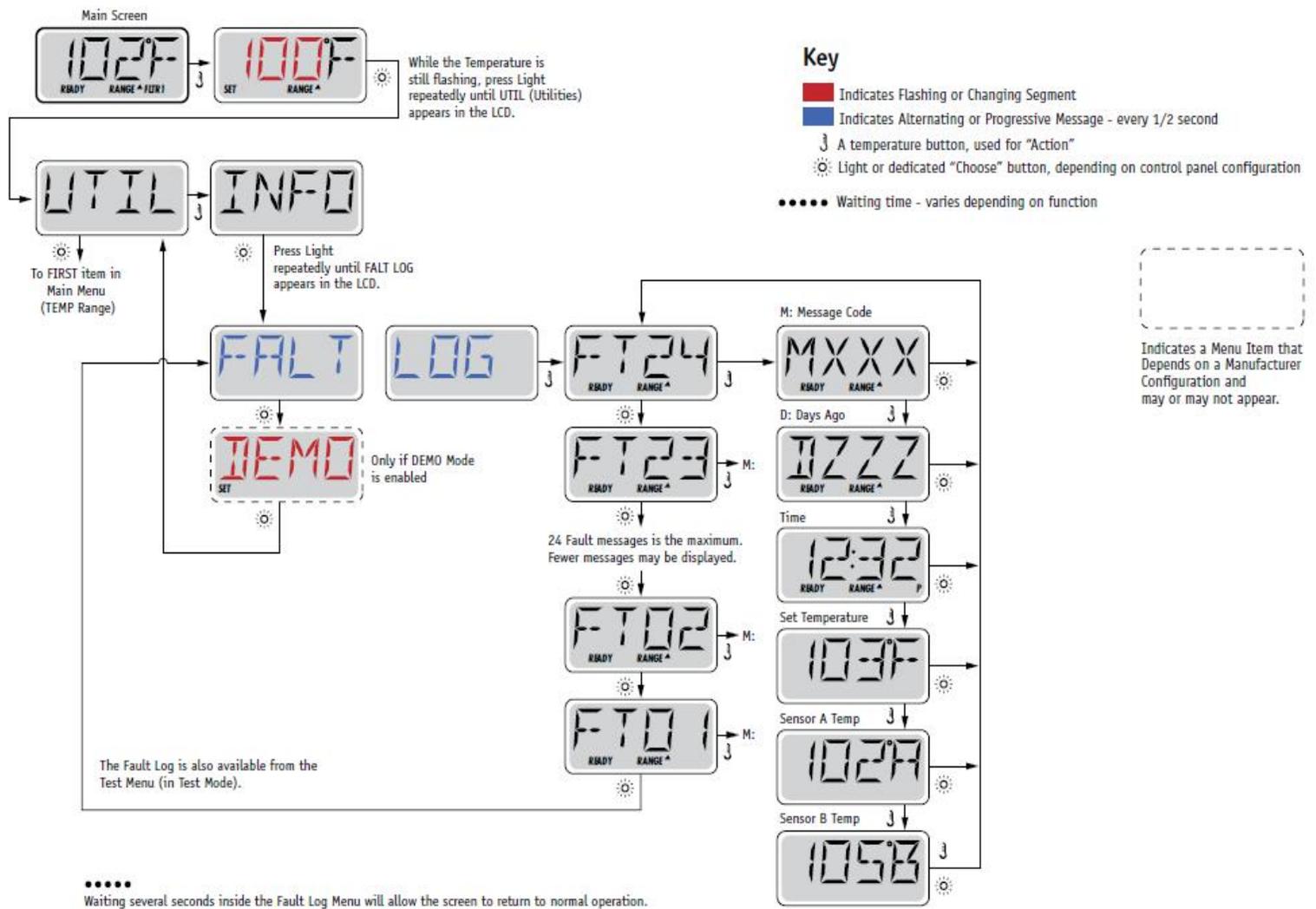
If freezing conditions exist, a GFCI should be reset immediately or spa damage could result. The end user should always be trained to test and reset the GFCI on a regular basis.

## Utilities - Fault Log

### A Little History can tell a lot

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

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



## General Messages

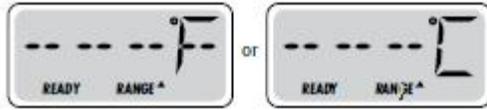


## Priming Mode – M019

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

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

---



## Water Temperature is Unknown

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

---



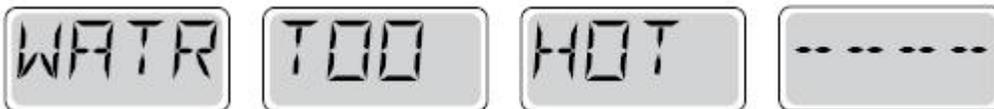
## Too Cold - Freeze Protection

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

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

This is an operational message, not an error indication.

---



## Water is too Hot (OHS) – M029

One of the water temp sensors has detected spa water temp 110° F (43.3° C) and spa functions are disabled.

System will auto reset when the spa water temp is below 108° F (42.2° C). Check for extended pump operation or high ambient temp.

---



## Safety Trip - Pump Suction Blockage\* – M033

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

---

**M0XX numbers are Message Codes. See Page 15.**

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

## (11) Heater-Related Messages



### Heater Flow is Reduced (HFL) - M016

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

---



### Heater Flow is Reduced (LF)\* - M017

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

---



### Heater may be Dry (dr)\* - M028

Possible dry heater, or not enough water in the heater to start it. The spa is shut down for 15 min. Press any button to

reset the heater start-up. See "Flow Related Checks" below.

---



### Heater is Dry\* - M027

There is not enough water in the heater to start it. The spa is shut down. After the problem has been resolved, you must

press any button to reset and restart heater start up. See "Flow Related Checks" below.

---



### Heater is too Hot (OHH)\* - M030

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

---



### A Reset Message may Appear with other Messages.

Some errors may require power to be removed and restored.

---

### Flow-Related Checks

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

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

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

## (12) Sensor-Related Messages

---



### Sensor Balance is Poor – M015

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

---



### Sensor Balance is Poor\* – M026

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

---



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

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

---

## (13) Miscellaneous Messages

---



### No Communications

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

---



### Pre-Production Software

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

---



### °F or °C is replaced by °T

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

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

## (14) System-Related Messages

---



### Memory Failure - Checksum Error\* – M022

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

---



### Memory Warning - Persistent Memory Reset\* – M021

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

---



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

Contact your dealer or service organization.

---



### Configuration Error – Spa will not Start Up

Contact your dealer or service organization.

---



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

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

---



### A Pump Appears to be Stuck ON – M034

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

---



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

POWER DOWN THE SPA. DO NOT ENTER THE WATER.

Contact your dealer or service organization.

---

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

## (15)Reminder Messages

---

### General maintenance helps.

Reminder Messages can be suppressed by using the PREF Menu. See Page 11.

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

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

Press a Temperature button to reset a displayed reminder message.

---



Alternates with temperature or normal display.

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

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

---



Alternates with temperature or normal display.

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

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

---



Alternates with temperature or normal display.

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

Clean the filter media as instructed by the manufacturer. See HOLD on page 6.

---



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.

## (16) Reminder Messages Continued

---

CHNG

WATR

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.

---

CLN

COVR

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.

---

TRT

WOOD

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.

---

CHNG

FLTR

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.

---

CHNG

CART

Alternates with temperature or normal display.

**As needed.**

Install new mineral cartridge

## (17) Warning! Qualified Technician Required for Service and Installation

### Basic Installation and Configuration Guidelines

Use minimum 6AWG copper conductors only.

Torque field connections between 21 and 23 in lbs.

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

Permanently connected.

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

CSA enclosure: Type 2

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

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

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

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

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

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

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

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

### **Warning! GFCI or RCD Protection.**

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

### **Warning! Shock Hazard!**

#### **No User Serviceable Parts.**

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

## **CSA Compliance/Conformité**

### **Caution:**

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

### **Warning:**

- Water temperature in excess of 38°C may be injurious to your health.

- Disconnect the electrical power before servicing.

Attention:

- Toujours verifier l'efficacite du disjoncteur differentiel avant d'utiliser differentiel avant d'utiliser le bain.
- Lire la notice technique.
- Lorsque l'appareillage est installe dans une fosse, on doit assurer un drainage adequat.
- Employer uniquement a l'interieur d'une cloture CSA Enclosure 3.
- Connecter uniquement a un circuit protege par un disjoncteur differentiel de Class A.
- Afin d'assurer une protection permanente contre le danger de shock electrique, lors de l'entretien employer seulement des pieces de rechange identiques.
- Les prises d'aspiration doivent etre equipees de grilles convenant au debit maximal indique.

**Avertissement:**

- Des temperatures de l'eau superieures a 38°C peuvent presenter un danger pour la sante.
- Deconnecter du circuit d'alimentation electrique avante l'entretien.

Warning/Advertissement:

- Disconnect the electric power before servicing. Keep access door closed.
- Deconnecter du circuit d'alimentation electrique avant l'entretien.  
Garder la porte fermer.

## (II-2)、 Control system :model GS100 & GS500 (VL260 control panel)



### GS100 Control System with VL260 Panel *Non-Circ. Operation*

#### (1) Initial Start-up

When your spa is first actuated, it will go into Priming mode, indicated by “Pr”. The Priming mode will last for less than 5 minutes (press “Temp” or “Set” to skip Priming Mode) and then the spa will begin to heat the spa and maintain the water temperature in the Standard mode.

#### (2) Temp/Set(80° F - 104° F / 26° C - 40° C)

The start-up temperature is set at 100F°/37°C. The last measured temperature is constantly displayed on the LCD.

*\*Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes.*

To display the set temperature, press the “Temp” or “Set” pad once.

To change the set temperature, press the pad a second time before the LCD stops flashing. Each press of the “Temp” or “Set” pad will continue to either raise or lower the set temperature. If the opposite direction is desired, release the pad and let the display revert to the current water temperature. Press the pad to display the set temperature, and again to make the temperature change in the desired direction.

After three seconds, the LCD will stop flashing and display the current spa temperature.

*\*Note: If there is not a blower on the system, an alternate panel with separate “Up” and “Down” buttons in place of a “Set” or “Temp” button may be used. Simply press “Up” or “Down” where a “Temp” or “Set” button press is indicated. (Ignore the “direction reversal paragraph”)*

#### (3) JETS

(1) operation with circ pump: Press “JETS” once to turn circ pump on, and press the button again to turn massage pump/surfing pump on. Circ pump at work cannot be turn on but massage pump/surfing pump can. The heater and ozone work together with the circ pump. Surfing pump/massage pump at work will turn off after 15 minutes. Circ pump will work without stop, during which it cannot be deactivated from the panel, but surfing pump/massage pump may be operated by button.

(2) operation without circ pump(equipped with two-speed pump): Press “JETS” to turn pump on or off, also can switch the pump from high-speed to low-speed. Pump in low-speed will work together with heater and ozone. 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.

#### (4) Blower (optional)

This button is used to turn the blower on and off. If left on, the blower automatically turns off after 15 minutes.

#### (5) Jets 2 (optional)

If your system has a pump 2 installed instead of a blower, it behaves exactly like a blower would.

#### (6) Light

Press the “Light” button to turn the light on and off. If left on, the light automatically turns off after 4 hours.

#### (7) Mode

Mode is changed by pressing the “Temp” or “Set” button, then pressing the “Light” button.

1) **Standard Mode** is programmed to maintain the desired temperature. Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes. “St” will be displayed momentarily when you switch into Standard Mode.

2) **Economy Mode** heats the spa to the set temperature only during filter cycles. “*EC*” will display solid when temperature is not current, and will alternate with temperature when temperature is current.

3) **Sleep Mode** heats the spa to within 20°F/10°C of the set temperature only during filter cycles. “*SL*” will display solid when temperature is not current, and will alternate with temperature when temperature is current.

**(8) Preset Filter Cycles**

The first filter cycle begins 6 minutes after the spa is energized. The second filter cycle begins 12 hours later.

Filter duration is programmable for 2, 4, 6, 8 hours or for continuous filtration (indicated by “*FC*” The default filter time is 2 hours. To program, press “Temp” or “Set,” then “Jets.” Press “Temp” or “Set” to adjust. Press “Jets” to exit programming. The blower purges for 30 seconds at the beginning of each filter cycle. The low speed of the pump runs during filtration and the ozone generator (if installed) will be enabled.

**(9) Freeze Protection**

If the temperature sensors detect a drop to below 44°F/6.7°C within the heater, the pump and blower will automatically activate to provide freeze protection. The equipment stays on until 4 minutes after the sensors detect that the spa temperature has risen to 45°F/7.2°C or higher. In colder condition, an optional additional freeze sensor may be added to protect against freeze conditions that may not be sensed by the standard sensors. Aux freeze sensor protection acts similarly except with the temperature thresholds determined by the switch and without a 4-minute delay in turnoff. See your dealer for details.

**3. Diagnostic Messages**

<b>Message</b>	<b>Meaning</b>	<b>Action Required</b>
	No message on display.	The control panel will be disabled until power returns. Spa settings will be preserved until next power up.
--	Temperature unknown.	After the pump has been running for 2 minutes, the temperature will be displayed.
<i>HH</i>	“Overheat” The spa is shut down. One of the sensors has detected 118°F/48°C at the heater.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call your dealer or service organization.
<i>OH</i>	“Overheat” The spa has shut down. One of the sensors has detected that the spa water is 110°F/43°C.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. At 107°F/42°C, the spa should automatically reset. If spa does not reset, shut off the power to the spa and call your dealer or service organization.
<i>IC</i>	“Ice” Potential freeze condition detected.	No action required. The pump and blower will automatically activate regardless of spa status
<i>SA</i>	Spa is shut down. The sensor that is plugged into the Sensor “A” jack is not working.	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappear when the heater cools.)
<i>Sb</i>	Spa is shut down. The sensor that is plugged into the Sensor “B” jack is not working.	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappear when the heater cools.)
<i>Sn</i>	Sensors are out of balance. If alternating with spa temperature, it may just be a temporary condition. If flashing by itself, spa is shut down.	If the problem persists, contact your dealer or service organization.

<i>HL</i>	A significant difference between temperature sensors has been detected. This could indicate a flow problem.	Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. If problem persists, contact your dealer or service organization.
<i>LF</i>	Persistent low flow problems.(Displays on the fifth occurrence of “ <i>HL</i> ”message within 24 hours.) Heater is shut down, but other spa functions continue to run normally.	Follow action required for “ <i>HL</i> ” message. Heating capability of the spa will not reset automatically; you may press any button to reset.
<i>dr</i>	Possible inadequate water, poor flow, or air bubbles in detected in the heater. Spa is shut down for 15 minutes.	Check water level in spa. Refill if necessary. If water level is okay, make sure the pumps have been primed. Press any button to reset, or this message will automatically reset within 15 minutes. If problem persists, contact your dealer or service organization.
<i>dy</i>	Inadequate water detected in heater. (Displays on third occurrence of “ <i>dr</i> ”message.) Spa is shut down.	Follow action required for “ <i>dr</i> ” message. Spa will not automatically reset. Press any button to reset.

### III. Brief Introduction of All SPA Models:

- 1. Materials** Spa models are made of acrylic plate with fiber glass reinforced. (Color of Acrylic: A010—White cloud; A020—Pearl black; WT6064-white; etc.)
- 2. Functions:** Water massage、 Air bubble、 Heating 、 Circulation、 Ozone sterilization、 FM radio、 Bottom LED lights、 Control panel、 Plastic Hem skirt, etc.
- 3. Options:** Cover、 Stair、 Heat insulation on tub body and hem、 small LED lights (12-60pcs) 、 TV、 DVD、 Aroma、 Bluetooth、 Fountain、 Waterfall, etc.
- 4.Functions (Standard Configuration)**

Model	Spec. (cm)	Big Nozzle (Each)	Small Nozzle (Each)	Air Bubble (Each)	Pillow (Each)	Water pump (Each)		Air Pump 700W (Each)	Thermostat 3KW (Each)	Filter (Each)	Underwater Lamp 12V/3W (Each)	Ozone (Each)	Computer System (Set)
						0.35 HP	2HP/3HP						
M-3301	220x210x80	8	16	15	4	1	2	1	1	1	1	1	1
M-3303	320x230x100	19	74	32	4	1	3	1	1	1	1	1	1
M-3319	310x230x97	21	24	30	4	1	3	1	1	1	2	1	1
M-3322	230x220x80	29	4	24	4	1	2	1	1	1	1	1	1
M-3332	210x152x81	16	12	8	4	1	2	1	1	1	1	1	1
M-3351	183x183x83	8	12	20	4	1	1	1	1	1	1	1	1
M-3357	220x220x92	9	76		5	1	2	1	1	1	1	1	1
M-3360	220x110x77	3	13		2		1		1	1	1	1	1
M-3369	219x190x80	6	20		1	1	1		1	1	1	1	1
M-3372	210x152x78	5	11		4		1		1	1	1	1	1
M-3346	250x220x97	6	67	30	3	1	2	1	1	1	1	1	1

Configuration above is only for reference, for exact information, please subject to actual entity.

1). **Functions of Spa** : water force surf and massage, bubble bath, heating, filter, ozone disinfecting, Bluetooth player (optional), underwater lamp, computer control, plastic skirt etc.

2). **Optional fittings**: Spa insulation cover, ladder, spa body, insulation foam on bottom tub body or skirt hem, small leds from 20-40pieces, some of the models could be equipped with fountain and waterfall function, some could choose to install TV and DVD, some could choose to install aromatic perfume etc.

## IV. Description on Using Parts:

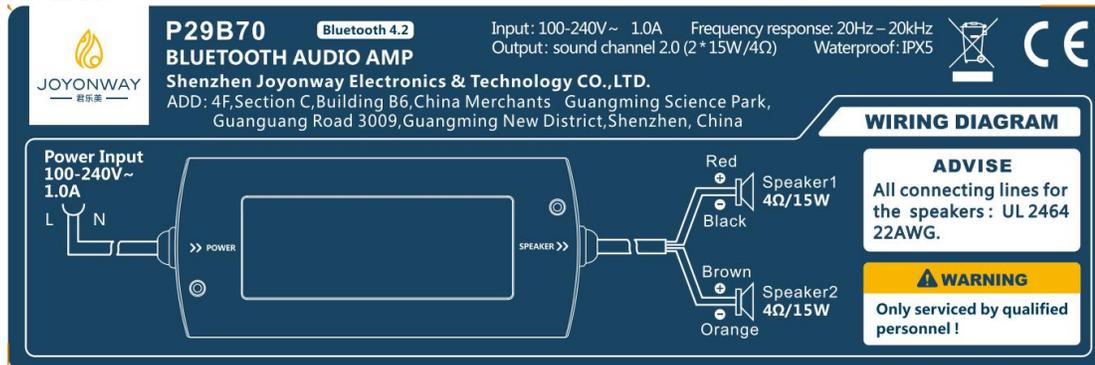
### A) •MANUAL OF THE WATERPROOF BLUETOOTH/AMPLIFIER SYSTEM

#### Configuration:

- 1、 Waterproof speakers: 2pcs (30-50W)
- 2、 Bluetooth amplifier: 1pc

#### Equipment parameters

1. Power input: 2100-240V ~ 50-60Hz 1.0A
2. Power output:sound channel 2.0 (2\*15W/4Ω )
3. Bluetooth version :V4.2
4. Frequency response: 20Hz-20kHz
5. Water proof: IPX5



The wiring diagram

6. Connected to the load and power supply



Connect the load and power supply according to above wiring diagram

7. The normal work

When power is supplied, search and connect the Bluetooth equipment named "JOYONWAY" with a Smartphone or ipad. Then users can play music with Smartphone or ipad.



**B)•Thermostat:**

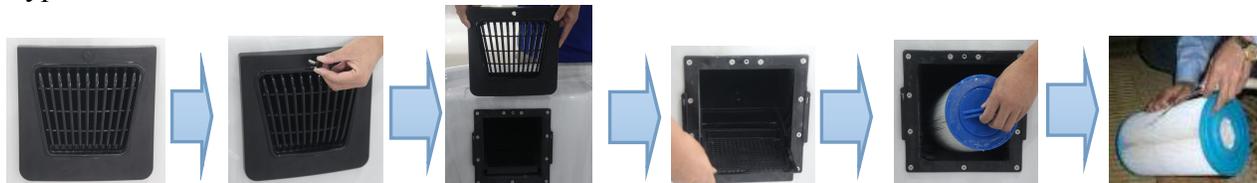
- 1、 normal starting up time is 4-8 hours
- 2、 SPA Thermostat cannot be heated by man in the air, or there will be danger. If there is something wrong in operation, professional servant is indeed needed to prevent the risk of electricity.

**C)•Air pump:**

Normal starting up time is 15-30 minutes  
Please notice that water level should not be 7cm over the tub water level to prevent air pump being burnout by water leakage.

**D)•Paper element filters daily maintenance:**

Type one:



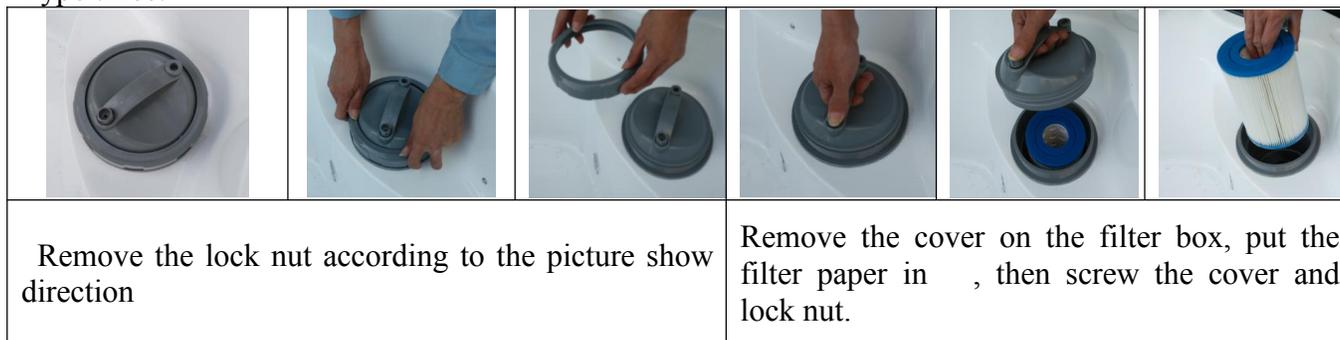
- 1) Remove the outer cover of the skimmer
- 2) Pull out the skimmer screw;
- 3) Take out the paper core;
- 4) Wash the paper core with water, reset it after cleaning and dry out;

Type two:



- 1). Pull apart the crystal package of the paper core;
- 2). Pull out the cover of filtration bucket;
- 3). Match the paper core inside and screw it tight, then put the cover of filtration bucket back.

Type three:



Type four:

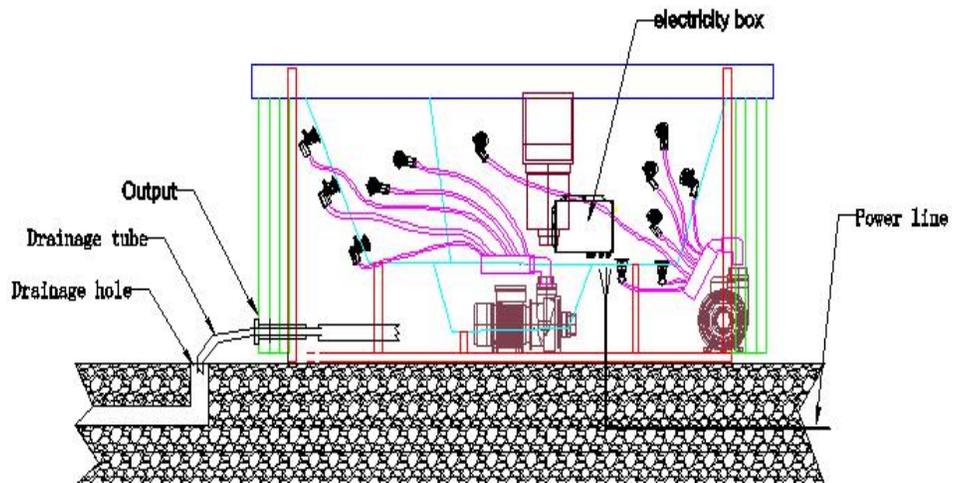


- 1) Remove the cover on the filter, and screw the core paper filter out.

- 2) Repeatedly Clean the core paper filter with water.
- 3) Put the core paper filter back to use after dry out.
- 4) Change the core paper filter half a year once, depends on the high quality of water, lifetime of paper filter can be properly extended.
- 5) Change a new paper filter, take out a new one and tear out the package of the paper core and put it inside the filtration bucket.
- 6) Match the paper core correctly inside and screw it down in sequence, then put the cover of filtration bucket on top.

**Noted:** Different spa model with standard configuration will be equipped with one of these three filtrations, please install and clean the paper core in accord with the proper filtration system you purchase.

### E) •Water pipes connection of SPA



Drain of SPA in hem side

sketch map of connection

#### DRAIN INSTRUCTIONS

1. Inset closed position
2. Extended closed position (pull out to fully extended position and remove cap); place cap in safe place.
3. Full extended closed position (attach garden hose in the full extended closed position).
4. Open position for draining (turn hose and fitting ¼ turn clockwise and insert ½ way to open position for draining).
5. Open position for draining (turn hose and fitting ¼ turn counter clockwise and pull out to full extended closed position).
6. Full closed extended position (remove hose and replace cap).
7. With replaced cap screwed on, turn ¼ turn clockwise and push in all the way to inserted closed position.
8. Closed inserted position.

## V. Description on Installation:

The position of electric box (power supply switch) and drain is various according to different SPA models.

- 1) Please reserve an independent - controlled electric leakage switch before installing the SPA and reserve power cord no less than 3\*6mm<sup>2</sup>. For big swimming SPA, at least two group of power cord 3\*6mm<sup>2</sup> is needed. If customer requires 380V power supply, please reserve the 380V leakage switch and power cord at least 5\*4mm<sup>2</sup> and two group of power cord at least 5\*6mm<sup>2</sup> for big swimming SPA.
- 2) 1 inch soft pipe for connecting the drain of SPA is needed before installation.

### Power cord of SPA

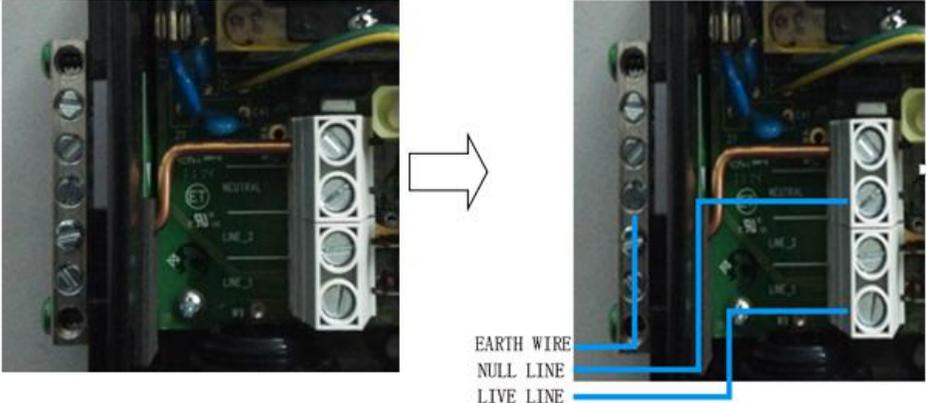
- 1) Balboa control system (BP6013G1&BP6013G2&BP6013G3)

<p>Panels</p>	 <p>TP600 panel</p>	 <p>TP400 panel</p>
<p>Electric box</p>	<p style="text-align: center;"><b>Controller BP6013G1/G2/G3 Tech Sheet</b></p> <p>Customer: Balboa Water Group  Part Number: 56826-02 800 Incoloy 3kW  56827-02 Titanium 3kW  Custom Box Overlay <input type="checkbox"/>  Box Overlay Part Number N/A  CE System Model For 3.0kW: BP21-BP6013G2-RCA3.0K  Software Version ID: M100_226 V37.0  Software Version: 37.0  File Name: BP6013_37.0_BP6013G2.hex  Configuration Signature: F71FE5EB  Eng. Project Number: 4890  Control Panels:  TP600 Version 2.7 and later (Version 2.12 or later required for bba™/bba™2 On/Off control via menu)  TP400T CE Version 2.7 and later (TP400T US should not be used) (Version 2.12 or later required for bba™/bba™2 On/Off control via menu)</p> <p><b>Power Requirements:</b>  Single Service [3 wires (line, neutral, ground)]  230VAC, 50/60Hz*, 1p, 32A, (Circuit Breaker rating = 40A max.)  Dual Service N/A  3-Service [5 wires (line 1, line 2, line 3, neutral, ground)]  230VAC line-to-neutral**, 50/60Hz*, 3p, 16A, (Circuit Breaker rating = 20A max each phase line.)  * BP systems automatically detect 50Hz vs 60Hz.  ** 3-phase service measured line-to-line will read about 400V, but BP systems do not use it line-to-line.  <b>IMPORTANT</b> - Service must include a neutral wire, with a line to neutral voltage of 230VAC.</p> 	

<p>Diagram of 220V-230V (L/N/E)</p>	
<p>Diagram of 380V (L/N/E)</p>	

2) control system (GS100 /GS500)

<p>Panels</p>	<p>VL260D panel</p>
<p>Electric box GS500Z</p>	<p><b>Power Requirements</b></p> <ul style="list-style-type: none"> <li>• 230VAC, 1~, 16A or 32A, 50Hz</li> <li>• 3 wires (line, neutral, ground)</li> </ul> <p><b>System Outputs (As Configured)</b></p> <ul style="list-style-type: none"> <li>• 230V Pump 1, 2-Speed</li> <li>• 230V Circ Pump</li> <li>• 230V Ozone</li> <li>• 10V Spa Light</li> <li>• 230V AV (Stereo)</li> <li>• 230V 3.0kW Heater</li> </ul>

<p>Electric box GS100</p>	<p><b>Power Requirements</b></p> <ul style="list-style-type: none"> <li>• 230VAC, 1~, 16A, 50Hz</li> <li>• 3 wires (line, neutral, ground)</li> </ul> <p><b>System Outputs</b></p> <p><b>Setup 1 (As Manufactured)</b></p> <ul style="list-style-type: none"> <li>• 230V Pump 1, 2-Speed</li> <li>• 230V Ozone</li> <li>• 10V Spa Light</li> <li>• 230V 3.0kW Heater PN 58202</li> </ul> 
<p>Diagram of 220V-230V (L/N/E)</p>	 <p>EARTH WIRE NULL LINE LIVE LINE</p>

**Notice:**

- 1、 If your spa uses BALBOA BP6013 electronic control system, 230 V input power is confirmed with the supplier, please do not connect with 380V input power and 380V input power wiring connection diagram is not available while installation, and vice-versa. Attention, we are not responsible for any loss in any fault in Buyer’s operation.
- 2、 If necessary to change, please consult with your dealer and changed by professionals.

**VI. Care and Maintenance:**

- 1). Please clean the massage bathtub with neutral detergent and soft fabric. Do not clean it with acetone, solution, ammonia water and organic solvent, otherwise, it may possibly damage the surface of the bathtub. Mildly wipe off the adhesive stains on the bathtub with soft fabric and gasoline.
- 2). If there’s scratches on the bathtub, please grind with 2000# grinding paper with water, and then polish with toothpaste and soft fabric.
- 3). Please wipe off the water scale on the bathtub with light acid detergent such as citric acid and vinegar.
- 4). Remove the water-return unit and nozzle for cleaning and removing dirt.
- 5). Do not frequently wipe the gold and chrome plated parts (do not contact it with organic solvent).
- 6). please keep blunt and knife away from the surface, and butt or the things over 60 degree should be away from that too.
- 7). one time to check button of electricity leakage every month.

- 8). Make frequent checks on the electrical wires, buttons, connectors always to see if they are bitten by rats or worms.
- 9). Make frequent checks on the feed pipe and drain pipe always to see if there is some parts broken or bended make sure it is smooth.
- 10).when storing the products, do not put converted and overlapped, make sure they are far away from formic acid and methanal as well as any other organic solvent.
- 11).if they are needed to be carried, do take those actions lightly, in case of high pressure、 mechanical impact strength and succession.
- 12).if the bathtub are not to be used for a long time, dry inside the bathtub and make the circumstance dry and ventilated as well as no corrosive gas.

## VII. Instructions on Maintenance:

- 1). Replace the massage water pump: cut off power supply, open the bathtub side plate, drain empty the SPA's water, remove the wires and open the water pump, loosen the fixed bolts and take out the water pump, after replacing the pump, install power wire, fix the bolts, put into small amount of water into the bathtub, check if there's leakage at the pump, and then install the side plate of the bathtub.
- 2). Replace the filter water pump: cut off power supply, open the bathtub side plate, turn off the valves on both ends of water pump, remove the wires and open the water pump, loosen the fixed bolts and take out the water pump, after replacing the pump, install power wire, fix the bolts, put into small amount of water into the bathtub, turn on the valve, check if there's leakage at the pump, and then install the side plate of the bathtub.
- 3). Replace the thermostat: cut off power supply, open the bathtub side plate, turn off the valves on both ends of thermostat, remove the wires, loosen the fixed bolts and take out the thermostat, after replacement, install power wire, fix the bolts, put into small amount of water into the bathtub, turn on the valve, check if there's leakage at the pump, and then install the side plate of the bathtub.
- 4). Replace the filter core: cut off power supply, open the bathtub side plate, turn off the valves, loosen the bolts on top of the filter, take out the filter, remove dirt on bottom of the filter.
- 5). Anti-frozen of filter: In some area, water may be frozen in winter, under this case, please stop using filter, to remove it and clean the core, store it in safe place or move the filter core to interior. Or keep the SPA at standby state.

## VIII. Troubleshooting:

Faults	Reason	Solution
No reaction for panel key	1. Panel was locked 2. Panel is broken	Unlock the panel Change panel
No power supply	1. There's problem for the power circuit; 2. Protective switch is cut off.	Check the circuit Check and remove short circuit, connect the protective switch
Nozzle doesn't spray water	1. There's problem for power supply of water pump; 2. Water pump is not started. 3. Massage water pump is damaged 4. There is air in pipe	Check and connect the power wire; Check the massage water pump Replace the massage water pump Purify pipe by taking the loose joint part
Underwater lamp doesn't light on	1. Bulb is damaged; 2. Fuse is broken.	Replace the bulb Replace the fuse
Poor filtering effect	1. Filter water pump is not started; 2. Filter isn't cleaned; 3. Filter water pump is damaged.	Start the filter water pump Clean the filter Replace the filter water pump

Constant temperature effect is unavailable	1. Thermostat is damaged; 2. Power supply is unavailable. 3. Filter is jammed.	Repair or replace the thermostat Check the power supply Clean or replace the filter paper core
Bathtub is scratched		Grind with 2000# grinding paper with water, and then polish with toothpaste and soft fabric

**NOTICE: the usage manual is only for reference, and all data subject to the actual product, any update without notice.**

## **IX. BALBOA CONTROL SYSTEM / SPA CONTROL SYSTEM WARRANTY PROCESS**

If a Balboa control system / SPA control system is found to be defective in the field, the RMA can be handled either through the OEM or through one of Balboa offices.

In all cases, the OEM dealer/distributor is encouraged first to call one of the Balboa tech service departments to get assistance in troubleshooting the product and diagnose the problem.

In Europe, Balboa warranty department can be reached at:

HYDROAIR INTERNATIONAL  
BALBOA WATER GROUP  
ROUSTVEJ 50 VARDE, 6800 DENMARK  
Attn: Jan Hansen  
Jan.Hansen@Balboawater.com  
+45 7695 2410

If above European service department can't solve your problem , please reached at :

Habitatetjardin.com Groupe Gecodis SA  
32, rue de paradis 75010 Paris, France  
Sav4@gecodis.com  
+33 (0)1 47 70 33 64