TP700 PANEL

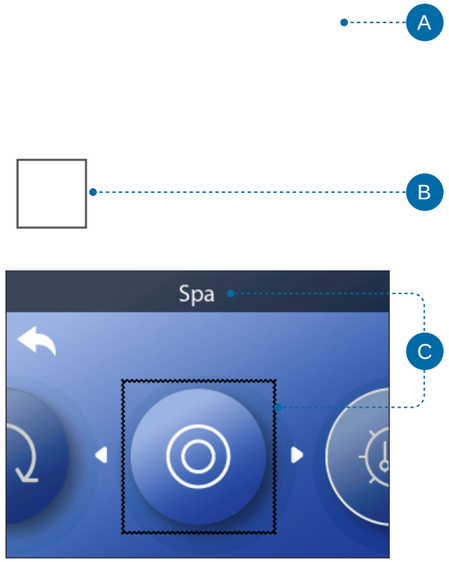
User Guide

Your Single Source Solution

42369 Rev A

BALB A water group

Main Screen



Navigate the Main menu

1 - Start from the Main screen (A), and press the RIGHT navigation button to enter the Main menu. If the Selection box (B) is on the Message icon, you need to press the RIGHT navigation button twice to enter the Main menu.

2 - Spa is the first item in the Main menu (C). Continue pressing the RIGHT navigation button to view all items in the Main menu.

3 - If you want to navigate back to the Main screen, press the UP navigation button to select the Back button (D). Once the back button is selected, press the SELECT navigation button and the Main screen (A) will appear.

Navigate the Settings menu

1 - Start from the Main screen (A), and press the RIGHT navigation button to enter the Main menu.

2 - Spa is the first item in the Main menu (C). Continue pressing the RIGHT navigation button until the Settings menu is selected (E).

3 - Press the SELECT navigation button to enter the Settings menu (F).

4 - The Navigation arrow (H) indicates more settings. Press the DOWN navigation button to scroll down the list.

Press-and-Hold

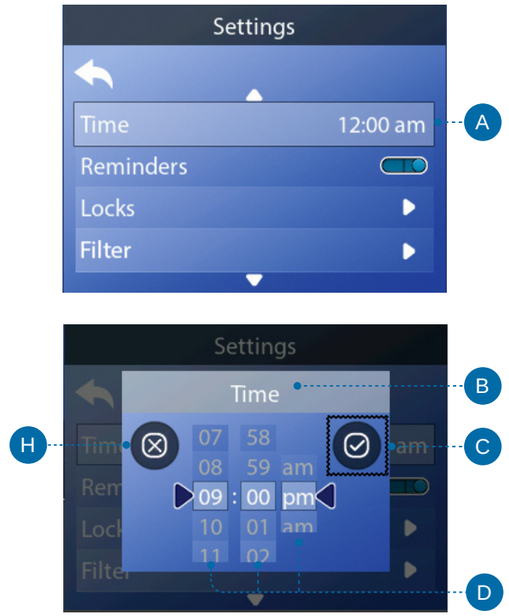
If you need to navigate a long list, press-and-hold the navigation button. For example, press-and-hold the DOWN navigation button to scroll down the Settings menu list (G). The Navigation arrow (H) indicates more menu items.

View Message Screen

1 - Start from the Main screen (A), and press the LEFT navigation button to select the Message icon (B).

2 - Pressing the SELECT navigation button to view the Message screen.

3 - The Message screen may have an Exit button or a Clear button. Select the button on the screen and press the SELECT navigation button. View “Exit and Clear Buttons” on page 31 for more information.



SET TIME-OF-DAY

Be sure to set the Time-of-Day

Setting the Time-of-Day can be important for determining water filtration times and other background features.

Follow these steps to set the time-of-day:

1 - Navigate to Time (A).*

2 - Press the SELECT navigation button, and the Time screen will appear (B).

3 - Use the navigation buttons to adjust your settings (D).

4 - Select the Save button (C), and press the SELECT navigation button.

You have set the time-of-day. ☑

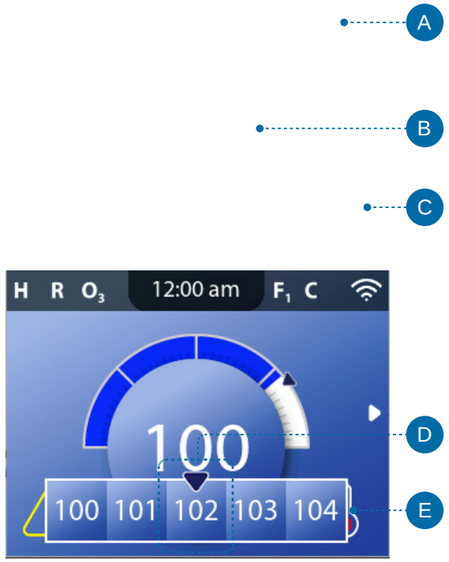
If you do not want to save your settings, select the Cancel button (H), and press the SELECT navigation button.

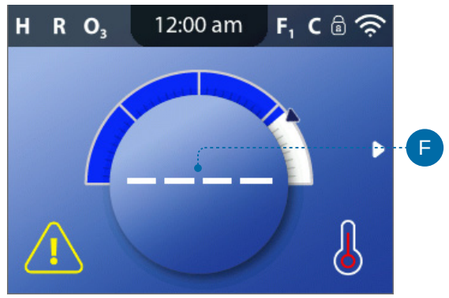
If Time-of-Day has not been set, this Information icon appears (G). Select the Information icon and press the SELECT navigation button to view the corresponding message in the Information screen (F). Select the Exit button (E) and press the SELECT navigation button to exit the Information screen.

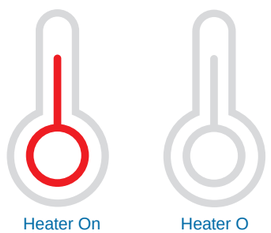
You can choose a 12-hour or 24-hour time display (View “UNITS” on page 29). If you choose 24-hour time, “am” and “pm” are removed. CE control systems default to a 24-hour time display.

* View page 10 for information on navigating the Settings menu.

Main Screen







Note: the Heater Status icon flashes during heater start-up; this is normal.

CHANGE THE SET TEMPERATURE

Follow these steps to change the Set Temperature:

1 - Start at the Main screen (A). Press the SELECT navigation button to view the temperature menu (E).

2 - Press the RIGHT and/or LEFT navigation buttons to change the Set Temperature.

The center box (D) indicates the current Set Temperature. In this example the current Set Temperature is 102.

3 - Once your desired Set Temperature is in the center box (D), press the SELECT navigation button, or just wait a few seconds.

The change is complete. ☑

How do I view the Water Temperature?

The Water Temperature is displayed here (B) on the Main screen.

How do I view the Set Temperature?

Start at the Main screen (A), and press the SELECT navigation button. The Set Temperature is displayed in the center box of the temperature menu (D).

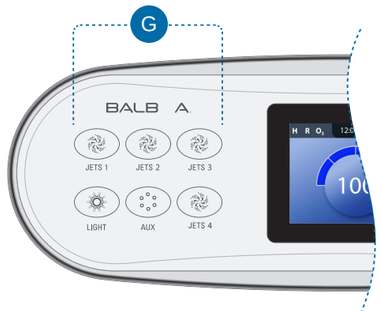
How do I know when the water heater is On?

The center of the Heater Status icon turns red (C) when the heater is On, and it turns white when the heater is Off.

What do the dashes indicate (F)?

When the spa is powered On, four dashes appear (F) in the Water Temperature display for one minute. The dashes indicate that the spa is checking the water temperature. After the pump runs for 1 minute, the dashes disappear and the water temperature is displayed (B). The dashes may reappear after the pump has not run for one hour.

Spa Device Buttons



RUN SPA DEVICES

There are two ways to run spa devices.

#1 - Run spa devices by pressing any of these buttons (G).

#2 - Run spa devices from the Spa screen by following these steps.

1 - Navigate to the Spa menu (A).*

2 - Press the SELECT navigation button to view the Spa screen (B). Each icon (D) shown in the Spa screen represents a spa device.

3 - Select Jets 1 (E). When you select an icon, its name appears at the top of the screen (E).

4 - Press the SELECT navigation button to run the spa device.

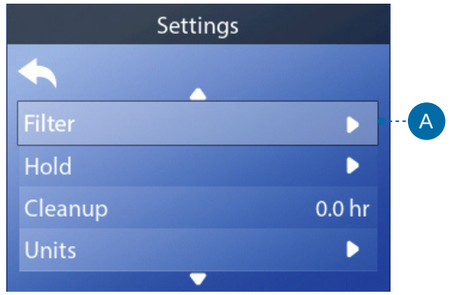
The spa device is running. ☑

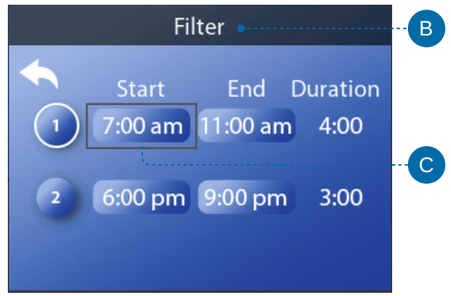
If you want to navigate back to the Main screen, select the Back button (C) and press the SELECT navigation button. The Main screen will appear.

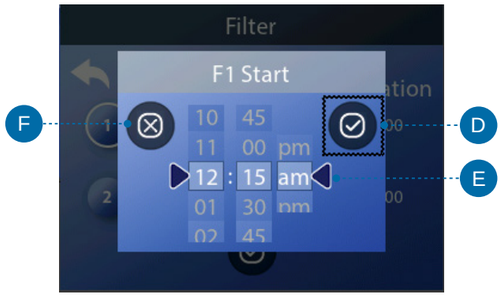
The functionality of each spa device may vary. For example, some devices may have a single speed or state, while other spa devices may have multiple speeds or states. Your spa configuration will determine the number of spa devices and the functionality of each device.

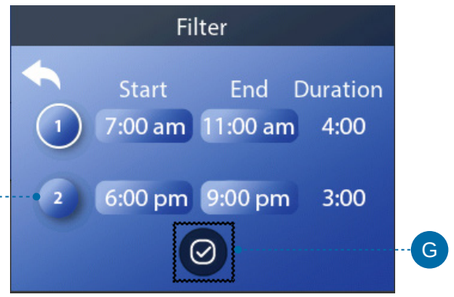
One Spa screen (B) can display a maximum of six devices. If your spa has more than six, a menu arrow will appear (F). Press the RIGHT navigation button to view and/or run the other spa devices.

* View page 10 for information on navigating the Settings menu.









SET FILTER CYCLE TIMES

Keep your water clean and ready to enjoy!

Follow these steps to set the Filter Cycles:

1 - Navigate to Filter (A).*

2 - Press the SELECT navigation button to view the Filter screen (B).

3 - Select the start time for Filter Cycle 1 (C). Press the SELECT navigation button to view the time controls (E).

4 - Enter your time settings (E) with the navigation buttons.

5 - Select the Save button (D), and press the SELECT navigation button.

You have set the start time for Filter Cycle 1. ☑

If you do not want to save your settings, select the Cancel button (F), and press the SELECT navigation button.

6 - Follow the same process to change the other Filter time settings if desired.

7 - Once all of the time changes are set, select the Save button (G), and press the SELECT navigation button.

You have set all of the Filter Cycle times. ☑

How can you tell if Filter Cycle 2 is enabled?

Filter Cycle 2 is enabled when a white ring appears around the 2 (H). In this example there is no white ring, so Filter Cycle 2 is disabled. Filter Cycle 2 is disabled by default on many spas.

* View page 10 for information on navigating the Settings menu.

ADJUSTING FILTRATION

Circulation Pump Modes

Some spas may be manufactured with Circulation Pump settings that allow programming filtration cycle duration. Some Circulation Modes are pre-programmed to operate 24 hours a day and are not programmable. Refer to the spa manufacturer's documentation for any Circulation Pump Mode details.

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. (Some systems will run a certain number of purge cycles per day, independent of the number of filter cycles per day. In this case, the purge cycles may not coincide with the start of the 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.

The Meaning of Filter Cycles

1. The heating pump always runs during the filter cycle*
2. In Rest Mode, heating only occurs during the filter cycle
3. Purges happen at the start of each filter cycle (on most systems).

* For example, if your spa is set up for 24-hour circulation except for shutting Off when the water temperature is 3˚F/1.5˚C above the set temperature, that shutoff does not occur during filter cycles.

AUXILIARY PANELS

Specific Buttons for Specific Devices

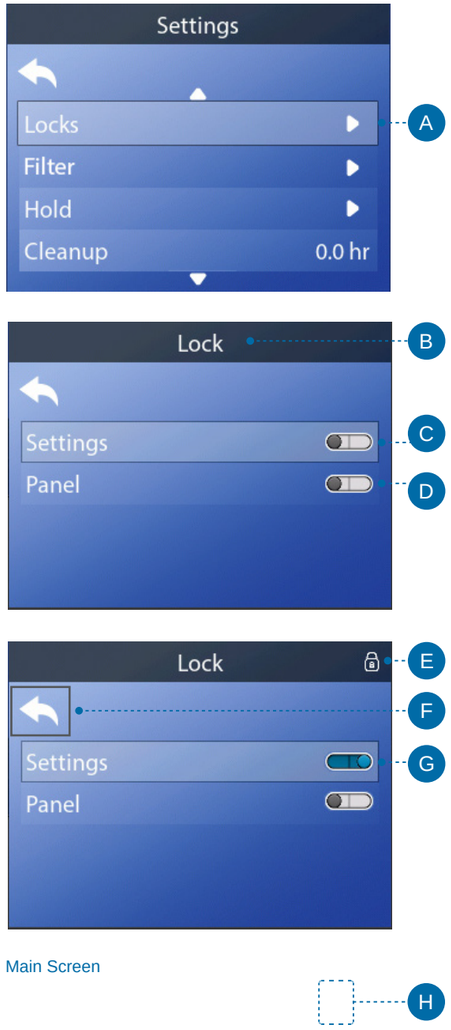
If the spa has any auxiliary panel(s) installed, pressing a button on such panel(s) will activate the device indicated for that button. These dedicated buttons will operate just like the Spa Screen buttons (view page 13).

Auxiliary Panels

Model #: AX10

Model #: AX20

Model #: AX40



Main Screen

RESTRICT OPERATIONS

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

Locking the Panel (D) prevents the controller from being used, but all automatic functions are still active.

Locking the Settings (C) 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.

Follow these steps to lock the Settings:

1 - Navigate to Locks (A).*

2 - Press the SELECT navigation button to view the Lock screen (B).

3 - Navigate to Settings (C). In this example the Settings are unlocked.

4 - Press-and-hold the SELECT navigation button for approximately 5 seconds. After 5 seconds, the toggle switch will move to the right and turn blue (G), and a lock icon will appear (E).

You have locked the Settings. ☑

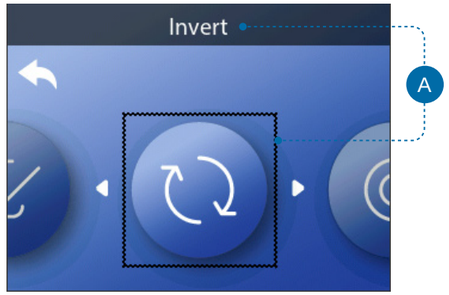
Follow the same steps to lock/unlock the Settings and/or Panel.

5 - Navigate back to the Main screen. The lock icon on the Main screen (H) indicates that the Settings are locked.

Can Settings and Panel be locked simultaneously?

Yes. The lock icon (H) appears if the Settings or the Panel or both are locked. The current lock states are indicated by the toggle switches in the Lock screen (C, D).

* View page 10 for information on navigating the Settings menu.



INVERT DISPLAY

Follow these steps to invert the display:

1 - Navigate to Invert (A).*

2 - Press the SELECT navigation button to invert the panel display (B). Every screen will be inverted.

You have inverted the display (B). ☑

Follow the same steps to restore the default display orientation (C).

B Inverted Display

C Default Display Orientation

* View page 10 for information on navigating the Settings menu.

SPA BEHAVIOR

FILTRATION AND OZONE

If your spa does not have a circulation pump, pump 1 low and the ozone generator will run during a filter cycle. If your spa has a circulation pump, the ozone will run with the circulation pump.

Many control systems are 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 cycle time and duration are programmable (view page 14). A second filter cycle can be enabled as needed.

At the start of each filter cycle, any additional water devices (such as pumps and blower) will also run briefly to purge its plumbing to maintain good water quality.

FREEZE PROTECTION

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

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

CLEANUP CYCLE (Optional)

When a pump or blower is turned on by pressing a button on the panel, 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 control system. On some control systems, you can change this setting (view page 29).

PUMPS

Press the **JETS** button once to turn Pump 1 On or Off, and to shift between low-speed and high-speed if equipped. If left running, Pump 1 will turn Off after a time-out period.

If your spa does not have a circulation pump, Pump 1 will run at low speed when the blower or any other pump is on.

If the spa is in Ready Mode (view page 22), Pump 1 low may also activate for at least 1 minute every once in a while 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.

3 CIRCULATION PUMP MODES

If the spa is equipped with a circulation pump, it will be configured to work in one of the following three modes:

MODE 1: The circulation pump will operate continuously (24 hours) with the exception of turning Off for at least 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).

MODE 2: The circulation pump will stay on continuously, regardless of the water temperature.

MODE 3: A programmable circulation pump will come on when the control system is checking the water temperature (polling), during filter cycles, during freeze conditions, or when another pump is on.

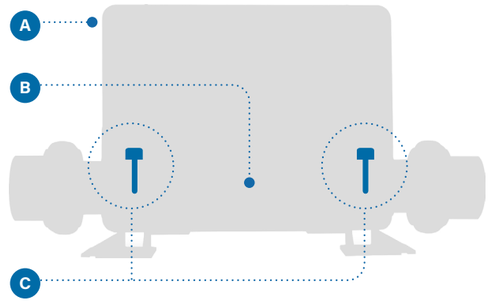
Circulation pump modes are determined by the Manufacturer and cannot be changed in the field.

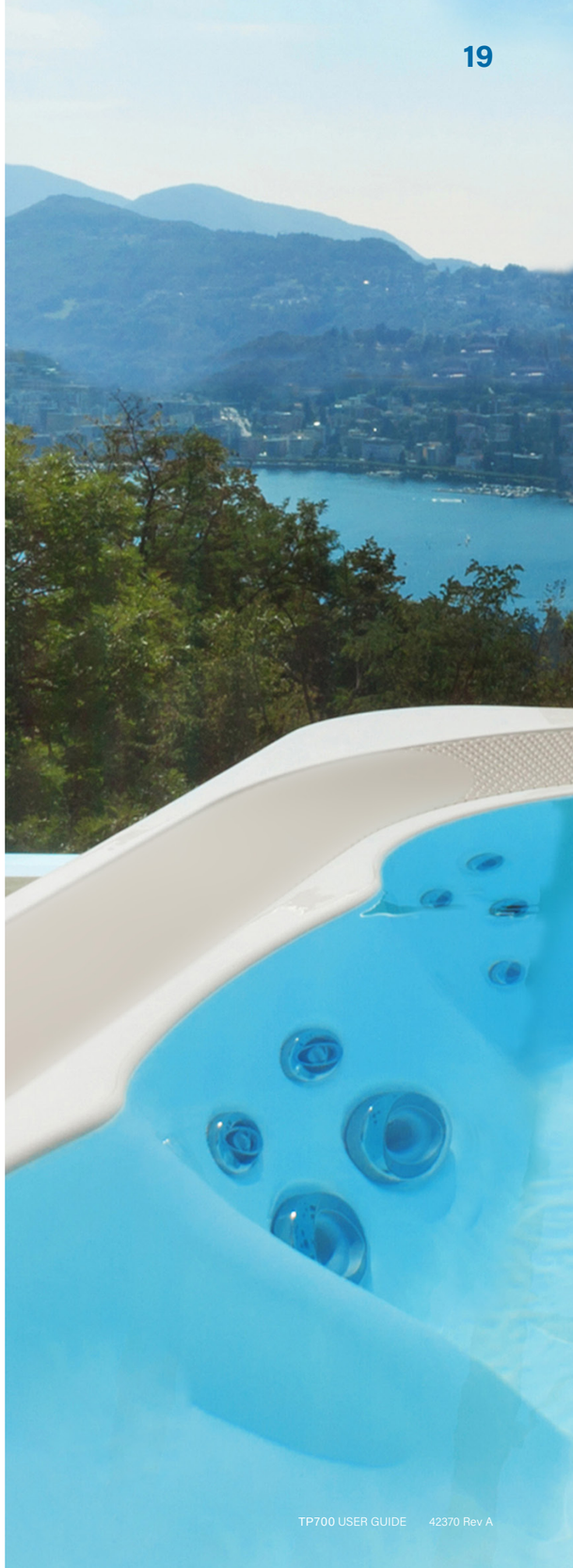
HOW DOES YOUR CONTROL SYSTEM CHECK THE WATER TEMPERATURE?

The control system (A) activates a pump that circulates water from the spa tub through the water heater (B) shown below. The water heater contains two temperature sensors (C). When water flows around the sensors, the control system calculates the water temperature. This process is referred to as "polling" in this user guide.

HEATER PUMP

The heater pump is any pump dedicated to circulating water through the water heater. If your spa has a circulation pump, the circulation pump will serve as the heater pump. If your spa does not have a circulation pump, a two-speed pump will serve as the heater pump. If the heater pump is a two-speed pump, anytime it is activated automatically (for any reason, including to check the water temperature), it will activate at low speed.





HEAT SETTINGS

Keep your spa heated and ready to enjoy, or keep it cool and save energy. Heat Settings help you do both.

Heat Settings are divided into two groups.

- 1 - Heat Modes
- 2 - Temperature Ranges

HEAT MODES

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TEMP RANGES

HIGH RANGE

80° - 104° F

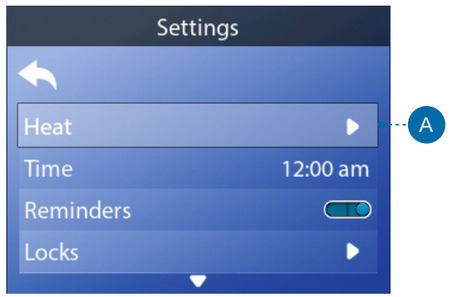
26.5° - 40.0° C

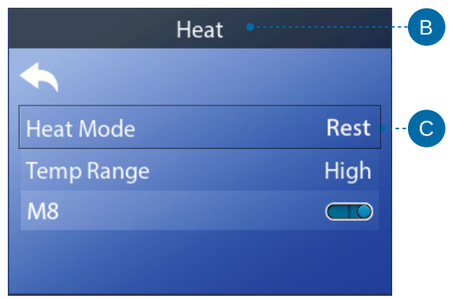
LOW RANGE

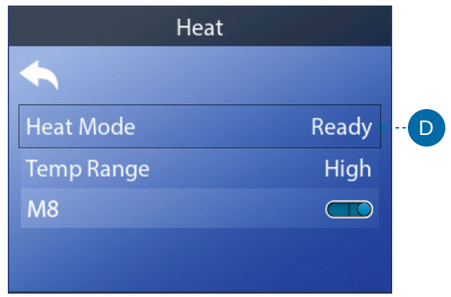
50° - 99° F

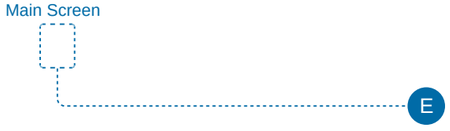
10.0° - 37.0° C

Different High and Low Temperature Ranges may be determined by the Manufacturer. Freeze Protection is active in High and Low ranges.









HEAT SETTINGS

HEAT MODES

Follow these steps to view the current Heat Mode and/or change the Heat Mode:

1 - Navigate to Heat (A).*

2 - Press the SELECT navigation button to view the Heat screen (B). The current Heat Mode will appear here (C). In this example the current Heat Mode is Rest. There are two Heat Modes to choose from: Ready, Rest.

3 - Press the SELECT navigation button to change the Heat Mode to Ready (D).

You have set the Heat Mode to Ready. ☑

The change takes effect immediately. No need to press a Save button

Ready-In-Rest Mode is a third Heat Mode. But, it is a sub-feature of Rest Mode and is not selectable from the panel menu.

The only place you can see whether you're in Ready-in-Rest Mode is on the Main screen, where it shows all three Heat Modes in icon form.

If you are in Ready-in-Rest Mode, and you want to cancel it (ie, you want to return to Rest Mode), just go view the current Heat Mode (where it will say Rest Mode) and exit. That simple action takes you back to Rest Mode

Where can I view the current Heat Mode on the Main screen?

The current Heat Mode is displayed here with an icon (E). In this example the current Heat Mode is Ready. The following list shows which icons may appear on the Main screen.

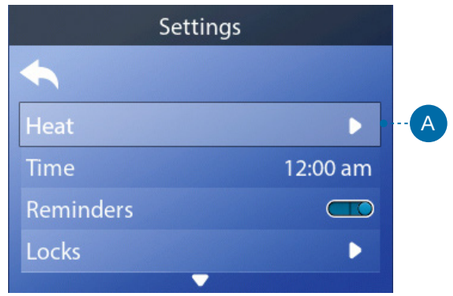
Heat Mode Icons

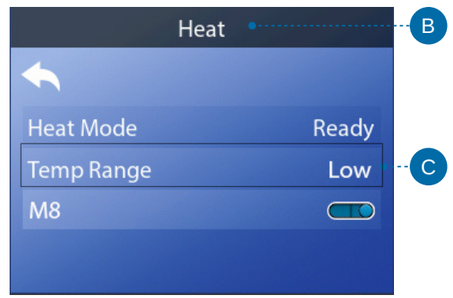
Ready: **R**

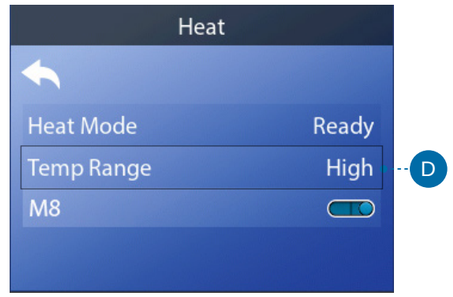
Rest: **R̲**

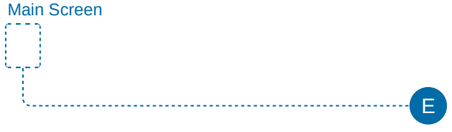
Ready-in-Rest: **RR**

* View page 10 for information on navigating the Settings menu.









HEAT SETTINGS

TEMPERATURE RANGES

Follow these steps to view the current Temperature Range and/or change the Temperature Range:

1 - Navigate to Heat (A).*

2 - Press the SELECT navigation button to view the Heat screen (B). The current Temperature Range will appear here (C). In this example the current Temperature Range is Low. There are two Temperature Ranges to choose from: High, Low.

3 - Press the SELECT navigation button to change the Temperature Range from Low to High (D).

You have set the Temperature Range to High. ☑

The change takes effect immediately. No need to press a Save button.

Can I see the current Temperature Range on the Main screen?

Yes. The current Temperature Range is displayed here with an icon (E). In this example the current Temperature Range is High. The following list shows which icons may appear on the Main screen.

Temperature Range Icons

High: **H**

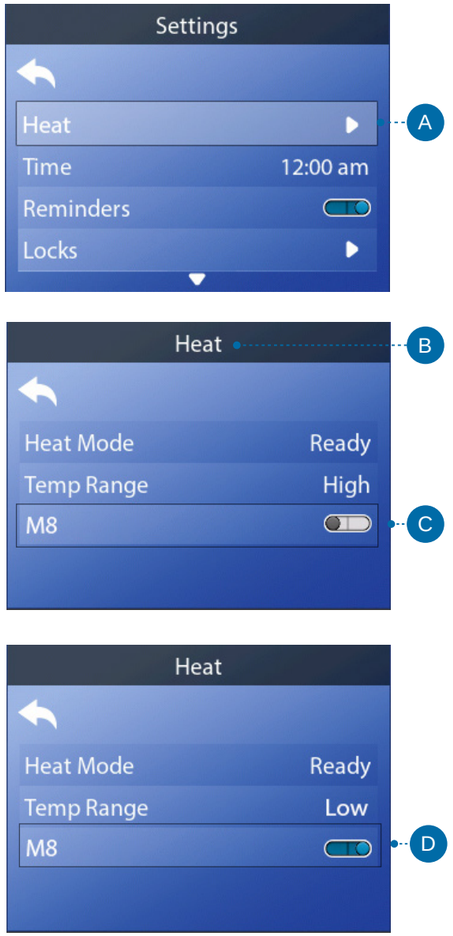
Low: **L**

* View page 10 for information on navigating the Settings menu.

TIME

M8

TEMPERATURE



HEAT SETTINGS

M8

M8 is artificial intelligence software contained in your spa's BP control system. M8 looks for opportunities to decrease device usage by evaluating water temperature readings. Stable water temperatures equal less device usage and less wear and tear.

Follow these steps to view the current M8 setting and/or turn it On/Off.

1 - Navigate to Heat (A).*

2 - Press the SELECT navigation button to view the Heat screen (B). The current M8 will appear here (C). In this example the current M8 setting is Off.

3 - Press the SELECT navigation button to change the M8 setting from Off to On (D).

M8 is turned On. ☑

The change takes effect immediately. No need to press a Save button.

Note: M8 is not available on all control systems.

* View page 10 for information on navigating the Settings menu.

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 during the filling process. Air may be trapped in the plumbing after filling the spa tub. Remove trapped air by priming the pumps. Priming will be discussed shortly.

After turning the power on at the main power panel, the panel will display a splash screen or startup screen. After the initial start-up sequence, the control will enter Priming Mode and display a Priming Mode screen (E). 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.

What is priming?

Priming removes trapped air from the plumbing. How do you know when a pump is done priming? Priming is complete when water flows from the jets without air bubbles. So, watch the jets as you prime the pump. If your spa has more than one pump, prime each pump one at a time. Why prime one at a time? If multiple pumps are running, it is too difficult to determine which pump is circulating air bubbles, or the flow from one pump may hide the flow from another pump.

Sometimes momentarily turning the pump Off and On will help it to prime. Do not do this more than 5 times. If the pump will not prime, shut Off the power to the spa and call for service.

Priming Mode duration:
4 minutes

PRIMING MODE

Priming Mode will last for 4 minutes, or you can manually exit Priming Mode after the pump(s) have primed.

Regardless of whether Priming Mode ends automatically or you manually exit Priming Mode, the control system automatically returns to normal heating and filtering at the end of Priming Mode.

PRIMING THE PUMPS

There are two ways to prime the pumps (and other water devices).

#1 - Prime pumps by pressing the Spa Device buttons (C).

#2 - Prime pumps from the Priming Mode screen (E).

One Priming Mode screen can display a maximum of six pumps (and other water devices). If there are more than six devices, a small navigation arrow will appear on the screen, indicating that more devices are available to control on the next Priming Mode screen. Press the RIGHT navigation button (G) to view the next screen.

The techniques for Priming pumps and running spa devices are almost identical. View page 13 for more information on running spa devices.

This panel message (E) indicates that the spa is in Priming Mode. Note: Turning the power Off and back On again will initiate a new pump priming session. If you need more than 4 minutes to prime all of the pumps, cycle power to the spa.

Follow these steps to prime a two-speed pump:

Press the button (JETS 1, JETS 2, etc.) for that pump once to turn it On at low speed. Press the button again to run the pump at high speed. Run the pump at high speed for 2 minutes. If priming is not complete after 2 minutes, turn Off the pump and repeat the process.

Follow these steps to prime any one-speed pump, including a circulation pump:

Press the button (JETS 1, JETS 2, etc.) for that pump once to turn it On. Run the pump for 2 minutes. If priming is not complete after 2 minutes, turn Off the pump and repeat the process.

Which pump is the heater pump?

When the spa has just entered Priming Mode, press the LIGHT button (B) and see if any water flows. If so, you have a circulation pump serving as the heater pump. If not, a two-speed pump serves as the heater pump. A circulation pump is controlled with the LIGHT (B) button (in Priming Mode only). A two-speed heater pump is controlled by pressing the JETS 1 (A) button.

Once the heater pump is primed, prime any additional pumps.

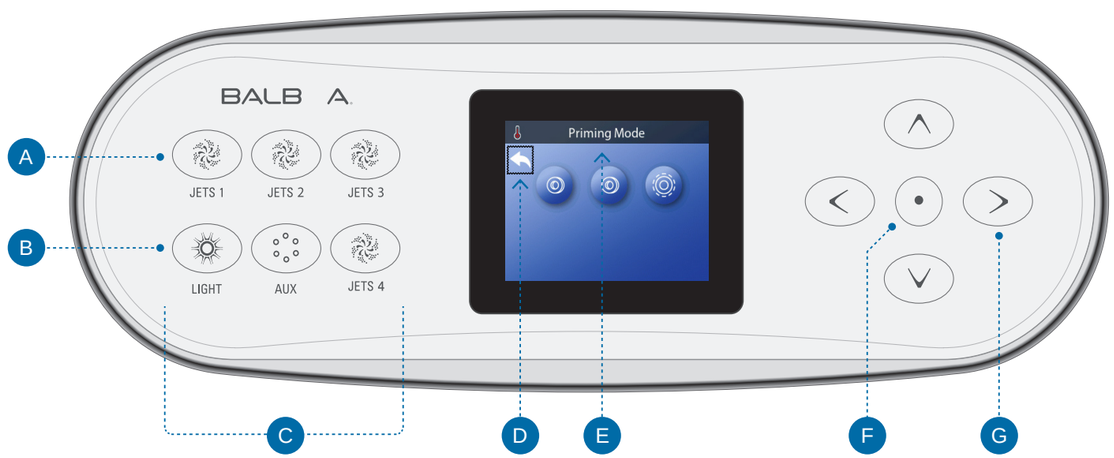
The heater pump is the most important pump to prime.

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 minute Priming Mode. Doing so may cause damage to the pump and in some cases may cause the system to energize the heater and go into an overheat condition.

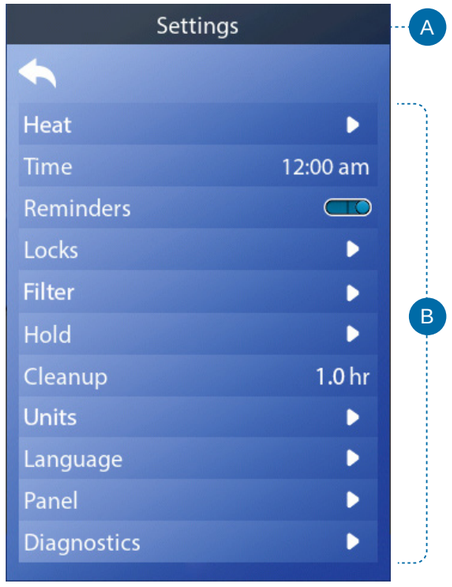
EXITING PRIMING MODE

Priming Mode ends automatically. However, you can manually exit Priming Mode during this time by selecting the Back Arrow (D) and pressing the SELECT navigation button (F).

When Priming Mode ends (automatically or manually) the panel will display dashes (H). Once the control system cycles water through the heater for one minute, the dashes will be replaced by the water temperature.



SETTINGS



Fine tune your spa with a wide variety of Settings

Navigate to Settings (A) to view and/or control your spa. * This is an example of a Settings list (B). Your Settings list may vary.

HEAT

Make sure your spa is heated and ready to enjoy with Heat Settings (view page 20).

TIME

Set the Time to insure scheduled features have proper timing (view page 11).

REMINDERS

Reminders (A) are helpful spa maintenance messages that display periodically.

LOCKS

Lock the Panel and/or Settings (view page 16).

FILTER

Keep your spa water clean and ready to enjoy by setting Filter Cycles (view page 14).

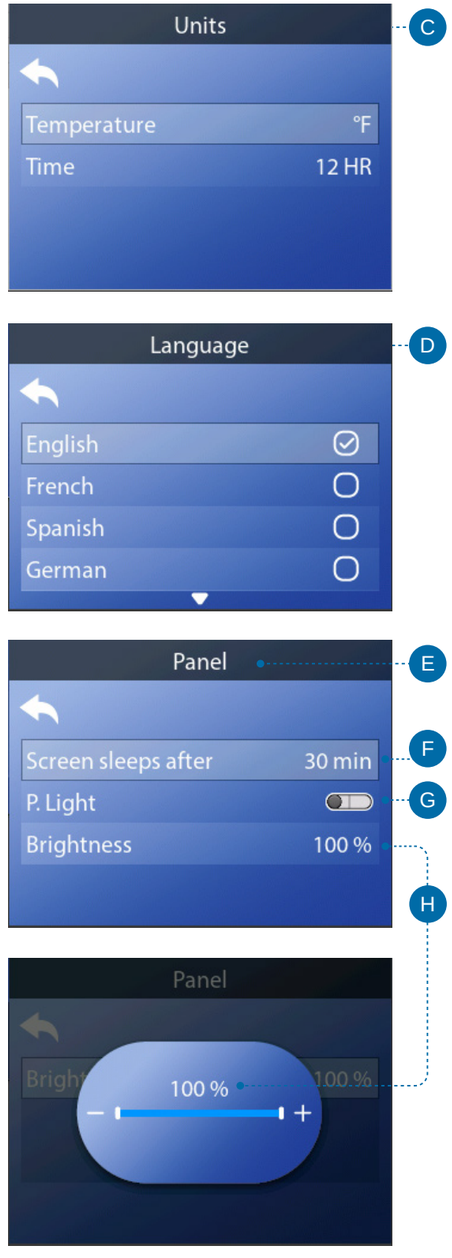
HOLD

Hold is used to disable the pumps during service functions like cleaning or replacing the filter. Hold Mode will typically last for 1 hour unless the mode is exited manually. You can see how much longer Hold will last at the bottom of the screen (for example, “Holding for 0:58”). If you Exit this screen, Hold Mode ends.

If spa service will require more than an hour, it may be best to simply shut down power to the spa.

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

* View page 10 for information on navigating the Settings menu.



CLEANUP CYCLE (Optional)

When a pump or blower is turned On by a button press, a Cleanup 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. You can change this setting on some control systems.

If Cleanup is set to zero hours, this feature will be disabled.

Cleanup is not included with all control systems, and control of Cleanup is not included with all control systems that have Cleanup.

UNITS

Specify Time and Temperature Units (C). The temperature choices are Fahrenheit or Celsius. The time display choices are 12 hour or 24 hour.

LANGUAGE

Select from a variety of languages (D).

PANEL

Set how long it takes the panel to go to sleep after the last activity. The default is 30 minutes (F).

Turn On/Off the panel lights (G).

Control the brightness of both the panel lights and the panel display together (H).

DIAGNOSTICS

Spa technicians can find useful information and features in Diagnostics (view page 38).

PANEL MESSAGES

This chapter lists all of the Panel Messages and explains each one. Some Panel Messages have corresponding Message Codes. If so, the Message Code appears below the Panel Message.

MESSAGE CODES

The easiest way to explain a Message Codes is with a troubleshooting scenario. For example, what happens if the spa water overheats? The panel will display "The water is too hot". Also, the control system will capture the following information and save it in a fault log:

- Time-Of-Day.
- Water temperature, Set Temperature.
- The number of days that have passed since the water overheated.
- Temperature Range.
- Heat Mode.
- Message Code.

The Message Code links the Panel Message to the corresponding Fault Log information. On this panel, both the Panel Message text and the Message Code are displayed in the fault log.

GENERAL MESSAGES

Several alerts and messages may be displayed in a sequence.

Possible freezing condition

A potential freeze condition has been detected, or the Aux Freeze Switch has closed. All water devices are activated. In some cases, pumps may turn On and Off and the heater may operate during Freeze Protection. This is an operational message, not an error indication.

The water is too hot

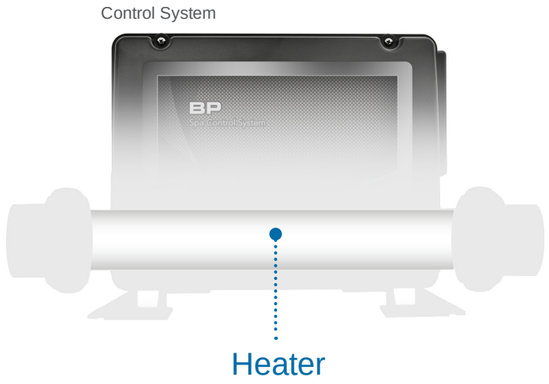
Message Code: M029 *

The system has detected a spa water temp of 110°F (about 43°C) or more, and spa functions are disabled. System will auto reset when the spa water temp is below 108°F (about 42°C). Check for extended pump operation or high ambient temp.

The water level is too low

This message can only appear on a system that uses a water level sensor. It appears whenever the water level get too low (or the water level sensor is disconnected), and automatically disappears when the water level is adequate. Pumps and the heater turn Off when this message appears.

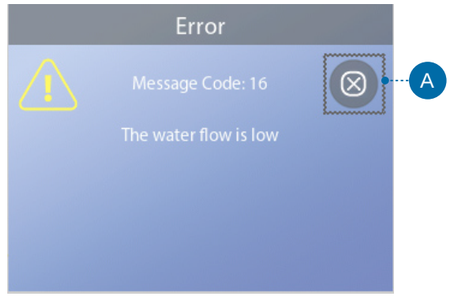
HEATER-RELATED MESSAGES



The water flow is low

Message Code: 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 minute. See "Flow Related Checks" below.



The water flow has failed

Message Code: 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 "Water Flow Checklist" on page 37 . After the problem has been resolved, reset the message **.

The heater may be dry **

Message Code: M028 *

Possible dry heater, or not enough water in the heater to start it. The spa is shut down for 15 minute. Reset this message* to reset the heater start-up. See "Water Flow Checklist" on page 37.

The heater is dry **

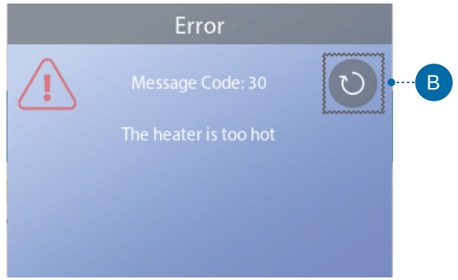
Message Code: M027 *

There is not enough water in the heater to start it. The spa is shut down. After the problem has been resolved, you must reset the message* to restart heater start up. See "Water Flow Checklist" on page 37.

The heater is too hot **

Message Code: M030 *

One of the water temp sensors has detected 118°F (about 48°C) in the heater and the spa is shut down. You must reset the message* when water is below 108°F (about 42°C). See "Water Flow Checklist" on page 37.



Flow-related checks

Check for low water level, suction flow restrictions, closed valves, trapped air, too many closed jets and pump prime. On some systems, even when spa is shut down by an error condition, some equipment may occasionally turn on to continue monitoring temperature or if freeze protection is needed. See "Water Flow Checklist" on page 37.

EXIT and **CLEAR** Buttons

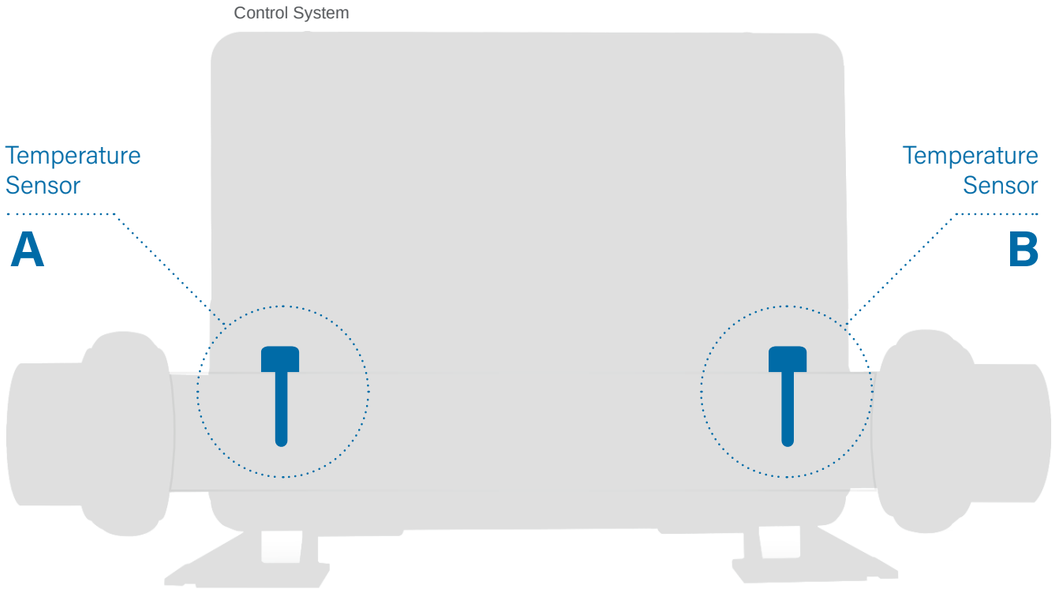
Some messages can be reset from the panel. Messages that can be reset will appear with a Clear button (B). If the message has an Exit button (A), the Message icon will remain on the Main screen once you exit the Message screen.

* View page 39 for instructions on how to review the Fault Log that corresponds with the Message Code.
** This message can be reset from the panel using the CLEAR button (see page 31).

* View page 39 for instructions on how to review the Fault Log that corresponds with the Message Code.
** This message can be reset from the panel using the CLEAR button (view "EXIT and CLEAR Buttons" notes above).

PANEL MESSAGES (Continued)

SENSOR-RELATED MESSAGES



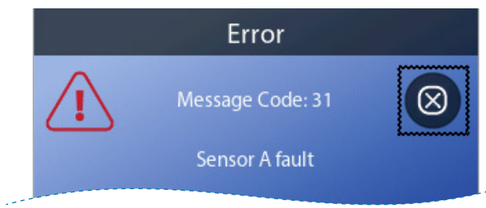
Sensors are out of sync
Message Code: M015 *

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

Sensors are out of sync **
Message Code: 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, Senor B Fault
Sensor A: Message Code: M031 *
Sensor B: Message Code: M032 *
A temperature sensor or sensor circuit has failed. Call for Service.



* View page 39 for instructions on how to review the Fault Log that corresponds with the Message Code.
** This message can be reset from the panel using the CLEAR button (see page 31).

SYSTEM-RELATED MESSAGES

Program memory failure **
Message Code: 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) **
Message Code: M021 *

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

The clock has failed **
Message Code: M020 *

Contact your dealer or service organization.

Configuration error

The spa will not Start Up. Contact your dealer or service organization.

The GFCI test failed (System Could Not Test the GFCI)
Message Code: M036 *

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

A pump may be stuck On
Message Code: M034 *

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

Hot fault
Message Code: 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.

* View page 39 for instructions on how to review the Fault Log that corresponds with the Message Code.
** This message can be reset from the panel using the CLEAR button (see page 31).

PANEL MESSAGES (Continued)

Reminder Message Icon

REMINDER MESSAGES

Reminder messages can be reset from the panel. Press the Clear Icon to reset the Reminder message.

General maintenance helps

Reminder Messages can be suppressed by using the Reminders Screen. 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.

Check the pH

May appear on a regular schedule, i.e. every 7 days.

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

Check the sanitizer

May appear on a regular schedule, i.e. every 7 days.

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

Check ozone

May appear on a regular schedule.

Change the UV as instructed by the manufacturer.

Service check-up

May appear on a regular schedule.

Do a service check-up as instructed by the manufacturer.

Additional messages may appear on specific systems.

Clean the filter

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

Clean the filter media as instructed by the manufacturer.

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

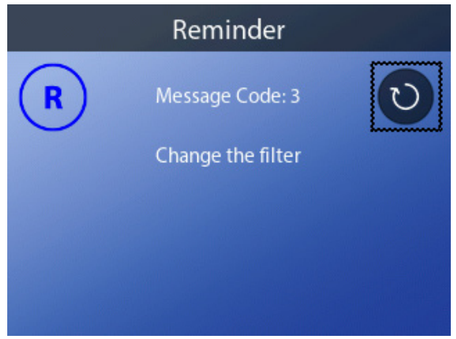
May appear on a regular schedule, i.e. every 180 days.

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.
Message Code: M03 *

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



Change the UV

May appear on a regular schedule.

Change the UV as instructed by the manufacturer.

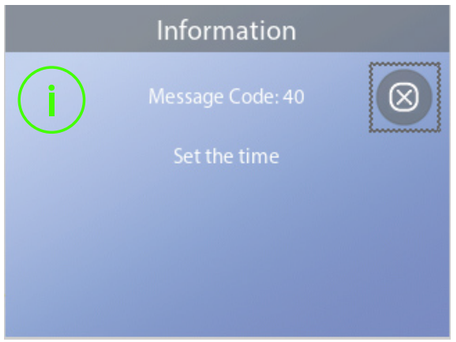
* View page 39 for instructions on how to review the Fault Log that corresponds with the Message Code.

PANEL MESSAGES (Continued)

MISCELLANEOUS MESSAGES

Set the Time-of-Day

When a control system that displays this message is powered On, its time-of-day is initialized to 12:00 PM. Setting the proper time-of-day is important for determining filtration times and other background features (view page 11).



Communications error

The control panel is not receiving communication from the Control System (view diagram below). This can appear briefly during system start-ups. This is normal. If it does not go away quickly, Call for Service.

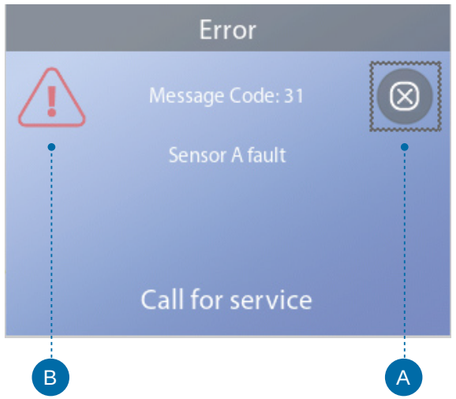
Control System

MESSAGE NOTES

Some messages include the “Call for Service” text as it requires a service technician to fix the problem.

If the panel is locked and a message alert appears, you will be taken to the Lock Screen (where you will need to Unlock the panel) before you can clear the message.

The Selection box defaults to the Clear or Exit icon (A) on the Message screen. Press the LEFT navigation button to move the Selection box to the Error/Warning/ Reminder icon (B), and then press the SELECT navigation button to go to the System Information screen (view page 38).



WATER FLOW CHECK LIST

Make sure the spa is filled with enough water to allow proper water flow through all of the spa’s plumbing.

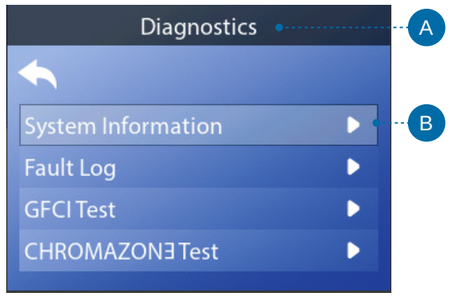
Closed valves can inhibit proper water flow.

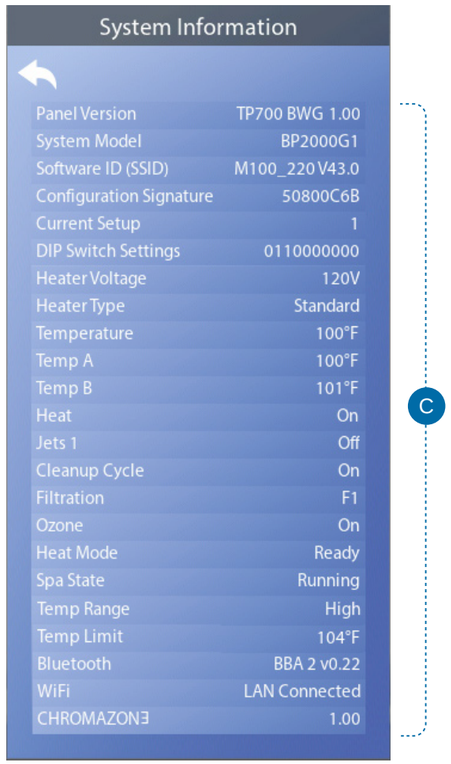
Jets may be equipped with water valves. If too many water valves are closed, proper water flow may be inhibited.

Make sure suction covers are unobstructed and free of debris.

One pump cycles water through the heater. All plumbing connected to this pump and the heater must be free from trapped air. Trapped air can restrict proper water flow. Remove trapped air by priming this pump.

DIAGNOSTICS





SYSTEM INFORMATION

Follow these steps to view the System Information:

1 - Start from the Main Screen and navigate to the Settings menu.*

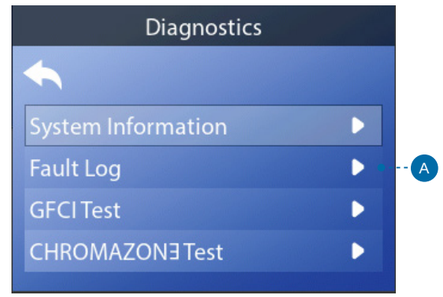
2 - Navigate to Diagnostics and select it to view the Diagnostics screen (A).

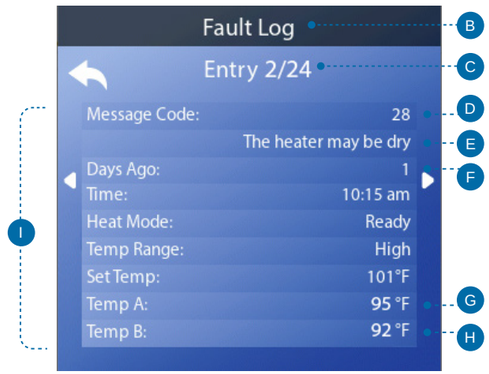
3 - Navigate to System Information and select it to view the System information screen (C). This is an example of a System Information list (C). Your System Information list may vary. Press the DOWN navigation button to scroll down the whole list.

* View page 10 for information on navigating the Settings menu.

FAULT LOG

Useful information about your spa is captured when a fault occurs. The information is stored in a Fault Log (B). Up to 24 faults can be stored in the Fault Log. This is an example of information that is captured in one fault (I); Your information may vary. This information can help spa technicians diagnose and fix issues. Not every entry in the Fault Log is an actual "fault". For example, message code MO19 is inserted into the fault log to identify each time the spa restarts.





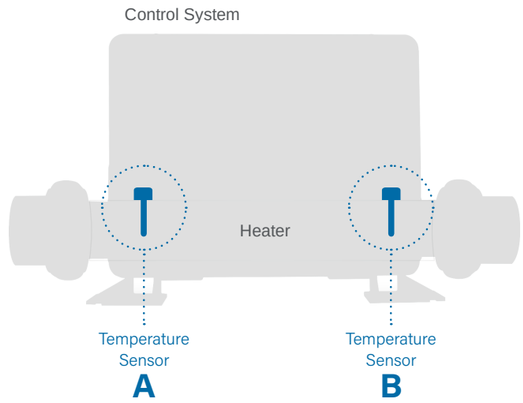
Each time a fault occurs, it is assigned a unique number, starting with number 1. The next fault is assigned number 2, and so on. Up to 24 faults can be stored in memory. In this example the fault number is 2/24 (C). This means it is the second fault in a list of 24 faults. The fault with the highest fault number is the most recent fault.

Each fault is assigned a message code (D). The code corresponds with a panel message (E). In this example the message code is 28. All panel messages and message codes are listed and explained in the chapter titled "Panel Messages" (view page 30).

"Days Ago" indicates the number of days that have passed since the fault occurred (F). Each time power to the spa is cycled Off and On again, a new day is added.

"Temp A" (G) is the temperature reading from sensor A, which located inside of the Control System's heater shown below.

"Temp B" (H) is the temperature reading from sensor B, which located inside of the Control System's heater shown below.



DIAGNOSTICS (Continued)

GFCI TEST

North America Only. Feature not available on CE rated systems.

Your systems may have GFCI configured in one of three ways:

1 - GFCI test is not enabled
2 - Manual GFCI test is enabled but automatic GFCI test is not enabled
3 - Both manual and automatic GFCI tests are enabled.

The automatic test will happen within 7 days of the spa being installed and if successful will not repeat. (If the automatic test fails it will repeat after the spa is restarted.)

The GFCI Test button (A) will appear on the Diagnostics screen only if the GFCI is enabled.

The GFCI Test screen (view next page) allows the GFCI to be tested manually from the panel and can be used to reset the automatic 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 Test feature. If your spa has this feature enabled by the manufacturer, the GFCI Trip Test must occur to allow proper spa function. On some systems:

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.

On systems that do not have the automatic GFCI test, the manual GFCI test must be done.

FORCING A MANUAL GFCI TRIP TEST

The installer can cause the GFCI Trip Test to occur at any time by activating Test (A) on the GFCI Test screen. 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 screen. “Passed” should appear on the GFCI screen.

WARNING

On those systems that automatically test the GFCI within 1 to 7 days after startup: The end-user must be trained to expect this one-time test to occur. The end-user must be trained how to properly reset the GFCI. If freezing conditions exist, the GFCI or RCD should be reset immediately or spa damage could result.

PERFORM A GFCI TEST

Follow these steps to perform a GFCI test:

1 - Navigate to GFCI Test (A). *
2 - Press the SELECT navigation button to view the GFCI Test screen (B).
3 - Navigate to “Test” (C) and press the SELECT navigation button perform the test.

The GFCI Status is viewed here (D). If the GFCI Test status is “Passed” (F), you may not need to perform this test.

If the GFCI Test status is “Armed” (D), proceed to the next step.

4 - Press the SELECT navigation button perform the test.

Within approximately 12 seconds, one of the following two things will happen:

1 - The spa powers down. After the spa powers down, go to the GFCI and power up the spa. The spa goes into Priming Mode when it is powered up. When Priming Mode is complete, navigate to the GFCI Test screen and confirm that it says “GFCI Status - Passed” (F).

2 - A “GFCI Test Failed” message appears. In this case, contact a qualified service technician. While you wait for the spa technician to arrive, the spa can be run normally for a time by cycling the power.

Reset Button: Only use the Reset Button (E) prior to moving the spa to a new location. Pressing the Reset the button forces a new Test to be performed at the new location.

* View page 10 for information on navigating the Settings menu.

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.

INFORMATION

TP700 SUPPORT

Trademark | Patent Notices

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Products are covered under one of more of the following US Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6282370, 6590188, 7030343, 7, 417, 834 B2 & Canadian Pt 2342614 plus others. Other patents both foreign and domestic applied for and pending.

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