TROPIC SEAS SPAS™

OWNER'S MANUAL

Revision 2 – December 30, 2019

TOPSIDE CONTROLLER INSTRUCTIONS

Figure 9. Tropic Seas Spas™ One Pump Topside Controller Face

Figure 10. Tropic Seas Spas™ Two Pump Topside Controller Face

Figure 11. Tropic Seas Spas™ Three Pump Topside Controller Face

Menus

Navigating the entire menu structure is done with 2 or 3 buttons on the control panel. The Up Arrow (Warm) or Down Arrow (Cool) buttons are:

These buttons allow changing the Set temperature while the numbers are flashing in the LCD.

The LIGHT Button 

is used to choose the various menus and navigate each section.

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.

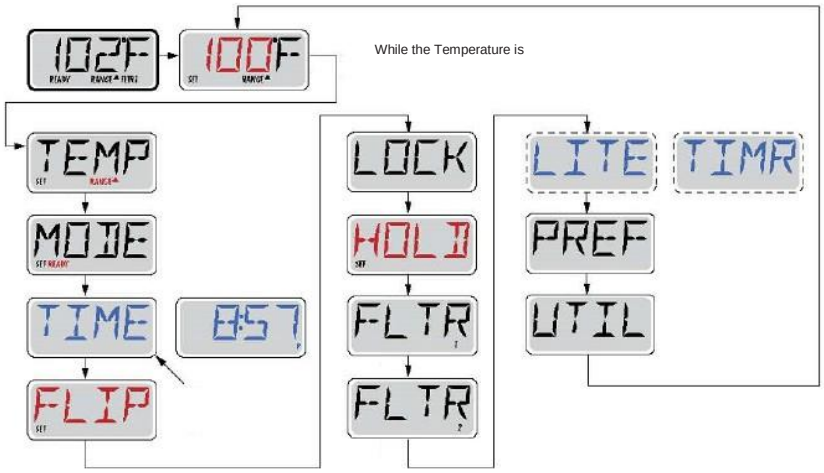


Figure 12. Menu Layout

Spa Operation

When the spa is first actuated, it will go into Priming mode which is indicated by “Pr”. This Priming mode will last for 5 minutes and then the spa will begin to heat and maintain the water temperature in the Standard Mode.

After turning the power on at the main power panel, the top-side panel display will go through specific sequences. These sequences are normal and display a variety of information regarding the configuration of the hot tub control.

Priming Mode – M019*

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

Regardless of whether the priming mode ends automatically or you manually exit the priming mode, the system will automatically 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 pushing the “Jets” 

button.

If the spa has a Circ Pump, it can be activated by pressing the “Light” button during Priming Mode. 

Priming the Pumps

As soon as the above display appears on the panel, push the “Jet” button once to start Pump 1 in low-speed and then again to switch to high-speed. Also, push the Pump 2 or “Aux” button, if you have a 2nd pump, to turn it on. The pumps will now be running in high speed to facilitate priming. If the pumps have not primed after 2 minutes, and water is not flowing from the jets in the spa, do not allow the pumps to continue to run. Turn off the pumps and repeat the process.

NOTE: Turning the power off and back on again will initiate a new pump priming session. Sometimes momentarily turning the pump off and on will help it to prime. Do not do this more than 5 times. If the pump(s) will not prime, shut off the power to the spa and call for service.

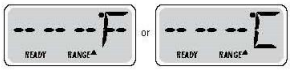
Important: A pump should not be allowed to run without priming for more than 2 minutes. Under NO circumstances should a pump be allowed to run without priming beyond the end of the 4-5 minute priming mode. Doing so may cause damage to the pump and cause the system to energize the heater and go into an overheat condition.

Exiting Priming Mode

You can manually exit Priming Mode by pressing the Up Arrow (Warm) or Down Arrow (Cool) buttons.

Note that if you do not manually exit the priming mode as described above, the priming mode will be automatically terminated after 4-5 minutes.

Be sure that the pump(s) have been primed by this time. Once the system has exited Priming Mode, the top-side panel will momentarily display the set temperature but the display will not show the temperature yet, as shown below. This is because the system requires approximately 1 minute of water flow.



Pumps

To ensure proper functionality and component longevity, individual jet pumps must not be cycled on and off more than one time every minute.

Press the “Jets” button 

once to turn pump 1 on or off, and to shift between low and high speeds if equipped.

If left running, the pump will turn off after a timeout period. The pump 1 low-speed will time out after 30 minutes. The high-speed will time out after 15 minutes.

Circulation Pump Mode

If the system is equipped with a circulation pump, it will be configured to

work in one of three different ways:

1. The circulation 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 circulation pump stays on continuously, regardless of water temperature.

3. A programmable circulation 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.

Filtration and Ozone

On circulation systems, the ozone will run with the circulation pump. The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower.

The filter time and duration are programmable. A second filter cycle can be enabled as needed. At the start of each filter cycle, Pump 2 will run briefly to purge its plumbing to maintain good water quality.

Freeze Protection

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

Temperature Operation

Adjusting the Set Temperature

When using the panel for Temperature control, pressing Up Arrow (Warm) or Down Arrow (Cool) will cause the temperature to flash.

Pressing the Up Arrow (Warm)/ Down Arrow (Cool) buttons again will adjust the set temperature in the direction indicated on the button. When the LCD stops flashing, the spa will heat to the new set temperature when required.

If the panel has a single temperature button, pressing the button will cause the temperature to flash. Pressing the button again will cause the temperature to change in one direction (e.g. UP). After allowing the display to stop flashing, pressing the Warm/Cool Buttons will cause the temperature to flash and the next press will change the temperature in the opposite direction (e.g. DOWN).

Warm/Cool buttons will cause display to be flashing.

Press the Warm (Up) or Cool (Down) buttons repeat until desired temperature is reached.

Press the Light Button to set the temperature.

Modes of Operation

Ready Mode

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

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

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.

Press Up Arrow (Warm) and Down Arrow (Cool) buttons until display is flashing.

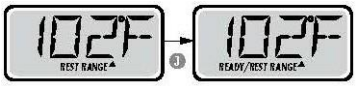
Press Light Button until Mode appears.

Press Up Arrow (Warm) or Down Arrow (Cool) Buttons to toggle between Ready and Rest.

Press the Light Button to set.

Ready-In-Rest Mode

Ready/Rest appears in the display, if the spa is in Rest Mode and Jets button 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.

Show and Set Time of Day

When the time of day is highlighted.

Setting the time-of-day can be important for determining filtration times and other background features. When in the TIME menu, 

SET TIME will flash on the display if no time-of-day is set in the memory. 24-hour time display can be set under the PREF menu.

Press Up Arrow (Warm) or Down Arrow (Cool) buttons until display is flashing.

Press Light button until Time appears.

Press Up Arrow (Warm) or Down Arrow (Cool) to toggle time settings hours.

Press Light button to set the hours.

Press Up Arrow (Warm) or Down Arrow (Cool) to toggle time settings hours.

Press Light button to set the minutes.

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)

Press Up Arrow (Warm) or Down Arrow (Cool) buttons until display is flashing.

Press Light button until Flip appears.

Press Up Arrow (Warm) or Down Arrow (Cool) to toggle time settings hours.

Press Light button to set the minutes.

Restricting Operation and Unlocking

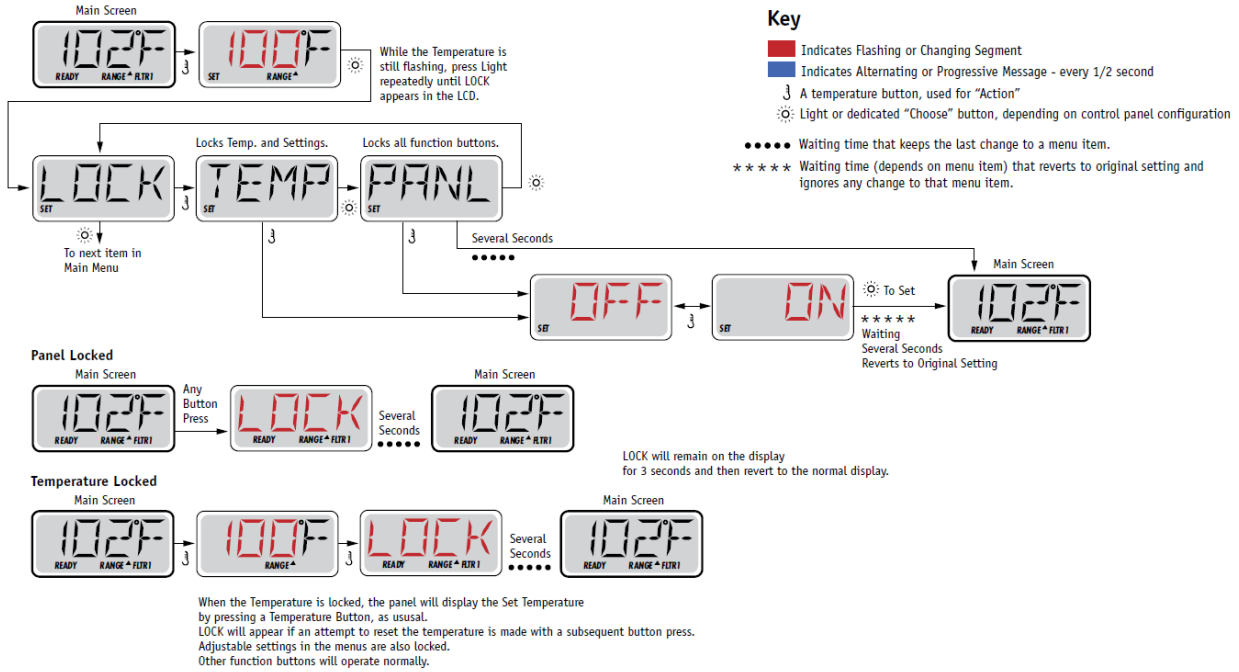
The control can be restricted to prevent unwanted use or temperature adjustments.

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

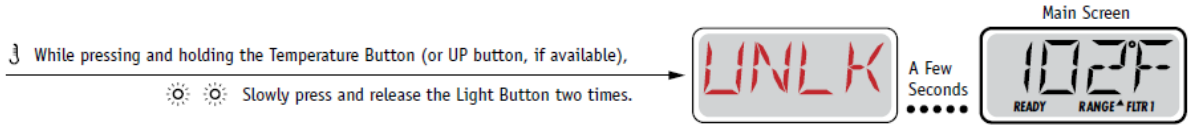
Locking the Temperature allows Jets and other features to be used, but the Set Temperature and other programmed settings cannot be adjusted.

Temperature Lock allows access to a reduced selection of menu items.

These include Set Temperature, FLIP, LOCK, UTIL, INFO and FALT LOG.



This Unlock sequence may be used from any screen that may be displayed on a restricted panel.



NOTE: The ONLY button that will work in the Unlock Sequence is the UP button.

Setting the Filter Cycle

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

Press Up Arrow (Warm) or Down Arrow (Cool) buttons until display is flashing.

Press Light button until FLTR appears.

Press Up Arrow (Warm) or Down Arrow (Cool) until BEGN appears.

Press Up Arrow (Warm) or Down Arrow (Cool) until 8:00 appears.

Press Up Arrow (Warm) or Down Arrow (Cool) to toggle HRS in 1 hour increments.

Press Light button to switch to minutes.

Press Up Arrow (Warm) or Down Arrow (Cool) to toggle minutes in 15 minute increments.

Press Light button to set the minutes.

Run HRS appears on display.

Press Up Arrow (Warm) or Down Arrow (Cool) to toggle minutes in 1 hour increments.

Press Light button to set hours.

Press Up Arrow (Warm) or Down Arrow (Cool) to toggle minutes in 15 minute increments.

Press Up Arrow (Warm) or Down Arrow (Cool) to set.

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 the spa has a circulation pump, it will turn on with Jets in Priming Mode. The circulation pump will run by itself when Priming Mode is exited.

Water Temperature is Unknown

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

Possible Freezing Condition

A potential freeze condition has been detected, or the Aux Freeze Switch has closed, and all pumps are activated. All pumps 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.

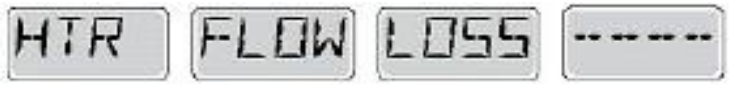
The Water is Too Hot – M029

The system has detected a spa water temperature of 110°F (43.3°C) or more, and spa functions are disabled. System will auto reset when the spa water temperature is below 108°F (42.2°C). Check for extended pump operation or high ambient temperature. During the warmer months, changing the filter cycle is recommended to prevent the spa from overheating with the high ambient temperature.

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.)

The Water Flow is Low – M016



There may not be enough water flow through the heater to carry the heat away from the heating elements. Heater startup will begin again after about 1 minute.

Flow-Related Checks

Check for low water level, suction flow restriction (filters), closed valves or trapped air.

The Water Flow has Failed – M017

There is not enough water flow through the heater to carry the heat away from the heating element and the heater has been disabled. After the flow problem has been resolved press any button to reset and begin the heater start up.

Flow-Related Checks

Check for low water level, suction flow restriction (filters), closed valves, or trapped air.

The Heater May be Dry – M028

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

Flow-Related Checks

Check for low water level, suction flow restriction (filters), closed valves, or trapped air.

The Heater is Dry – M027

There is not enough water in the heater to start and the spa is shut down. After the problem has been resolved, press any button to reset and restart the heater.

Flow-Related Checks

Check for low water level, suction flow restriction (filters), closed valves, or trapped air.

The Heater is Too Hot – M030

One of the water temperature has detected 118°F (47.8°C) in the heater and the spa is shut down. Press any button to reset when water is below 108°F (42.2°C).

Flow-Related Checks

Check for low water level, suction flow restriction (filters,) closed valves, or trapped air.

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 restriction (filters,) closed valves, or trapped air.

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.

Sensor Related Messages

Sensors Are Out of Sync – M015

The temperature sensors may be out of sync. Call your dealer for service.

Sensors Are Out of Sync – Call for Service – 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.

The temperature sensors are out of sync. Call your dealer for service.

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

The temperature sensors or sensor circuit has failed. Call your dealer for service.

System Related Messages

Program Memory Failure – M022

Call your dealer for service.

The Settings Have Been Reset– M021

Call your dealer for service if this message appears on more than one power-up.

The Clock has Failed –M020

Call your dealer for service.

Configuration error (Spa Will not Start)

Call your dealer for service.

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

May indicate an unsafe installation. Call your dealer for service.

A Pump May be Stuck On – M034

Water may be overheated.

POWER DOWN THE SPA! DO NOT ENTER THE WATER!

Call your dealer for service.

Hot Fault – M035

A pump appears to have been stuck on when the spa was last powered on. Water may be overheated.

POWER DOWN THE SPA! DO NOT ENTER THE WATER!

Call your dealer for service.

Miscellaneous Messages

Communications Error

The control panel is not receiving communication from the system. Call your dealer for service.

Test Software Installed

The Control System is operating with test software. Call your dealer for service.

°F or °C is replaced by °T

The Control System is in Test Mode. Call your dealer for service.

Reminder Messages

Not all messages may display.

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.

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.

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.

Change the Filter

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