



# T7-S & T8-S Topside

## Installation Manual & User's Guide





## End User Disclaimer:

United Spa Controls systems have absolutely no end user serviceable parts. United Spa Controls does not authorize attempts by the spa owner/user to install or repair/service any United Spa Controls products.

Non-qualified users should never open or remove the control box's cover, as this will expose dangerous voltage points and other serious risks.

Non-qualified users should not attempt to make changes to the topside's programming, as mis-programming can result in malfunction or possible damage.

Please contact your dealer or a locally licensed service center for service and technical support.

## Warranty Disclaimer:

It is extremely important that any user read this user's guide in its entirety before attempting to operate this United Spa Controls system. Any damage that may occur due to misuse may void the warranty. See warranty page for more information.

## Safety Disclaimer:

When using this electrical equipment, basic safety precautions should always be followed. Read and follow the important safety instructions in the safety section before and during use.

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**For Qualified Service Professionals Only!**

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## Important Safety Instructions:

When using this electrical equipment, basic safety precautions should always be followed, including the following.

### Read and follow all instructions!

1. **Warning:** Children should not use spas or hot tubs without adult supervision

**AVERTISSEMENT:** NE PAS LAISSER LES ENFANTS UTILISER UNE CUVE DE RELAXATION SANS SURVEILLANCE

2. **Warning:** Do not use the spa unless all suction guards are installed to prevent body and hair entrapment

**AVERTISSEMENT:** POUR ÉVITER QUE LES CHEVEUX OU UNE PARTIE DU CORPS PUISSENT ÊTRE ASPIRÉS, NE PAS UTILISER UNE CUVE DE RELAXATION SI LES GRILLES DE PRISE D'ASPIRATION NE SONT PAS TOUTES EN PLACE.

3. **Warning:** People using medication and/or having an adverse medical history should consult a physician before using a spa or hot tub

**AVERTISSEMENT:** LES PERSONNES QUI PRENNENT DES MÉDICAMENTS OU ONT DES PROBLÈMES DE SANTÉ DEVRAIENT CONSULTER UN MÉDECIN AVANT D'UTILISER UNE DE RELAXATION

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

**AVERTISSEMENT:** LES PERSONNES ATTEINTES DE MALADIES INFECTIEUSES NE DEVRAIENT PAS UTILISER UNE CUVE DE RELAXATION

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

**AVERTISSEMENT:** POUR ÉVITER DES BLESSURES, USER DE PRUDENCE EN ENTRANT DANS UNE CUVE DE RELAXATION ET EN SORTANT

6. **Warning:** Do not use drugs or alcohol before or during the use of a spa or hot tub to avoid unconsciousness and possible drowning

**AVERTISSEMENT:** POUR ÉVITER L'ÉVANOUISSEMENT ET LA NOYADE ÉVENTUELLE, NE PRENDRE NI ALCOOL AVANT D'UTILISER UNE CUVE DE RELAXATION NI QUAND ON S'Y TROUVE

7. **Warning:** Pregnant or possibly pregnant women should consult a physician before using a spa or hot tub

**AVERTISSEMENT:** LES FEMMES ENCEINTES, QUE LEUR GROSSESSE SOIT CONFIRMÉE OU NON, DEVRAIENT CONSULTER UN MÉDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION

8. **Warning:** Water temperature in excess of 100°F (38°C) may be injurious to your health.

**AVERTISSEMENT:** IL PEUT ÊTRE DANGEREUX POUR LA SANTÉ DE SE PLONGER DANS DE L'EAU À PLUS DE 38° C (100° F)

9. **Warning:** Before entering a spa or hot tub measure the water temperature with an accurate thermometer

**AVERTISSEMENT:** AVANT D'UTILISER UNE CUVE DE RELAXATION MESURER LA TEMPÉRATURE DE L'EAU À L'AIDE D'UN THERMOMÈTRE PRÉCIS

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

**AVERTISSEMENT:** NE PAS UTILISER UNE CUVE DE RELAXATION IMMÉDIATEMENT APRÈS UN EXERCICE FATIGANT

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

**AVERTISSEMENT:** L'UTILISATION PROLONGÉE D'UNE CUVE DE RELAXATION PEUT ÊTRE DANGEREUSE POUR LA SANTÉ

12. **Warning:** Do not permit electric appliances (such as a light, telephone, radio, or television) within 5 feet (1.5 m) of this spa or hot tub

**AVERTISSEMENT:** NE PAS PLACER D'APPAREIL ÉLECTRIQUE (LUMINAIRE, TÉLÉPHONE, RADIO, TÉLÉVISEUR, ETC) À MOINS DE 1.5M (5 FEET) DE CETTE CUVE DE RELAXATION

13. **Caution:** Maintain water chemistry in accordance with manufacturer's instruction

**ATTENTION:** LA TENEUR DE L'EAU EN MATIÈRES DISSOUTES DOIT ÊTRE CONFORME AUX DIRECTIVES DU FABRICANT

14. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6°F (37°C). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body.

Effects:

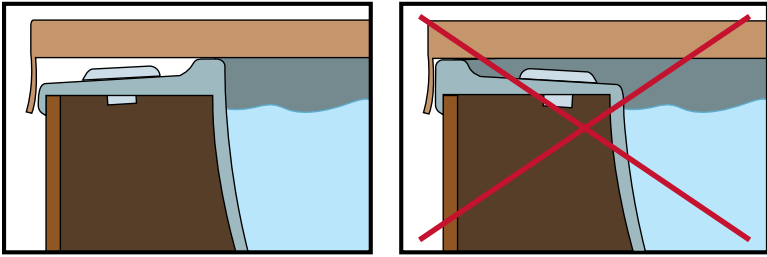
- 1- Unawareness of impending hazard.
- 2- Fetal damage in pregnant women.
- 3- Failure to recognize the need to exit spa.
- 4- Physical inability to exit spa.
- 5- Unconsciousness and danger of drowning.
- 6- Failure to perceive heat.

15. **Warning:** The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in hot tubs and spas

**AVERTISSEMENT:** LA CONSOMMATION D'ALCOOL OU DE DROGUE AUGMENTE CONSIDÉRABLEMENT LES RISQUES D'HYPERTHERMIE MORTELLE DANS UNE CUVE DE RELAXATION

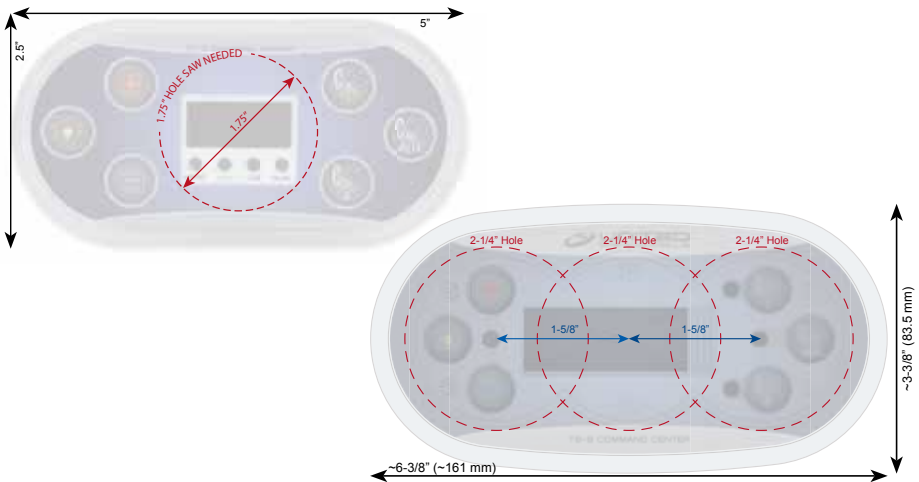
## Topside Control Installation

The topside should be installed on an outward facing edge of the spa so it's not subject to trapped steam/moisture under the cover, as shown:



Failure to do so will result in the need to prematurely replace the graphic decal assembly on the face of the topside control.

The T7-S topside control requires just a single 1.75" hole to be cut out of the shell of the hot tub for installation, while the T8-S requires 3 overlapping 2.25" holes, as shown:



Once ready to install, plug one end of the topside cable into the back of the topside, snake the cable through the cutout in the shell and down to the control box, and plug the opposite end of the topside cable into the control box. Affix the topside by peeling off the paper over the adhesive tape on the back of the topside, then pressing it firmly into place, slowly pressing firmly all around the perimeter to assure a good bond to the shell.

# About The T7-S & T8-S Topside

## The T7-S Topside

The T7-S is pictured below, with the descriptions of the items that will be referenced throughout this user's guide.



- 1 - LED Display
- 2 - Jets-1 Button & Indicator Light
- 3 - Aux Button & Indicator Light
- 4 - Jets-2 Button & Indicator Light

- 5 - Heat Indicator Light
- 6 - Temp Down Button
- 7 - Light Button
- 8 - Temp Up Button

## The T8-S Topside

The T8-S is pictured below, with the descriptions of the items that will be referenced throughout this user's guide.



- 1 - LED Display
- 2 - Jets-1 Button & Indicator Light
- 3 - Aux Button & Indicator Light
- 4 - Jets-2 Button & Indicator Light

- 5 - Temp Down Button
- 6 - Heat Indicator Light
- 7 - Light Button
- 8 - Temp Up Button

# Using The T7-S & T8-S Topside

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## Using The Topside

The T7-S & T8-S Command Center topsides use United Spa Controls' patented switching technology. This hybrid switching technology marries the satisfaction of having a physical button to press, with the longevity and reliability of touch-panel switching system with no moving parts to break down over time.

If your button presses are not registering, make sure that you are pushing the raised buttons completely flat against the panel, and that you are waiting a second between button presses.

## Upon Power-Up

Whenever the topside is powered on, the unit will flash it's model ('T7' or 'T8') followed by the units two-digit firmware version number (Example: 'T711') three times while it starts up. All configurable settings are saved to permanent memory, the only thing that needs to be set upon power-up of a topside that has already been configured previously is the current time (it will default to 12 AM upon power-up).

## Checking Software Version After Power-up

The software version can be accessed after initial power-up by simply pressing and holding the 'Aux' button until display reads 'PL-1', followed by pressing the Light button. The display will then, as it did at start up, flash it's model ('T7' or 'T8') followed by it's two-digit firmware version number three times. For example, a T7-S with firmware version 11 would flash 'T711' three times.

**NOTE:** Do NOT connect/disconnect the topside while the control box is powered. Always make sure the power is shut off at the breaker before removing/installing a topside, as to avoid damaging the electronics.

# Initial Configuration

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## **Topside Configuration**

Once the control box and topside have been properly installed, you can power up the unit and program the topside for the control's desired equipment and operational configuration.

The configuration instructions that follow are meant to be carried out by a spa service professional!

## **Topside Configuration Menu & Codes**

The topside has a configuration menu consisting of five codes that configure what components the system will operate, and what maximum amperage the system will operate at.

Each code has a number of options that the code can be set to. By default, all codes are set to their first option (Option 1).

Use the code chart on the next page to figure out which options you'll need to set for each code for the hot tub the control is being installed into.

Once you know what options all the codes should be set to, turn to the pages that follow for instructions on entering the configuration programming mode, and how to select the different options for each code.



## T7-S & T8-S Configuration Code Chart

### Code 1: Jet-1 Button Configuration

- Option 1: Jet-1 button operates Hi-Speed Pump-1
- Option 2: Jet-1 button operates Lo-Speed and Hi-Speed Pump-1 \*

### Code 2: Jet-2 Button Configuration

- Option 1: Jet-2 button operates Lo-Speed Pump-1
- Option 2: Jet-2 button operates Hi-Speed Pump-2
- Option 3: Jet-2 button operates Lo-Speed and Hi-Speed Pump-2

### Code 3: Aux Button Configuration

- Option 1: Aux button used only for settings/programming
- Option 2: Aux button operates Air Blower
- Option 3: Aux button operates Hi-Speed Pump-3

### Code 4: Power (Amperage) Configuration

- Option 1: 50A Operation (No heat with Aux)
- Option 2: 60A Operation (No power restriction)
- Option 3: 50A Operation (No heat with P-2)
- Option 4: 40A Operation (No heat with P-2, and Aux)
- Option 5: 20A 120V Operation or 30A 240V Operation  
(No heat with anything other than P-1 Lo-Speed)

### Code 5: Heater Operation

- Option 1: Electric Heater operates with Lo-Speed Pump-1  
Filtration cycle operates Lo-Speed Pump-1 & Ozone
- Option 2: Electric Heater operates with 24hr Circulation Pump  
Filtration cycle operates Ozone
- Option 3: Electric Heater operates with timed/auto Circ Pump \*\*  
Filtration cycle operates Circulation Pump & Ozone
- Option 4: Electric Heater operates with 24hr Circulation Pump  
Filtration cycle operates Lo-Speed Pump-1 & Ozone

\* - Code 1 should only be set to Option 2 if there is a second jet pump in the spa. If there is only one jet pump, the default should be left so the unit operates as described later in this manual, where the Jet-1 button operates Hi-Speed, and the Jet-2 button operates Lo-Speed (avoiding 'unused' buttons).

# Initial Configuration

## Entering The Topside's Configuration Menu

Once you've gone over the code chart and have chosen the options you want to set for each code, follow these instructions for entering the programming mode and setting the options. There is a time-out delay, so taking longer than 10 seconds between steps will cause the topside to time-out and resume normal operation.

### Step 1

Press & Hold



for ~15 seconds, until the display will reads:



### Step 2

Press & Hold



for ~15 seconds, until the display will reads:



### Step 3

Then press



to see the first code:



Code 1 - Option 1

## While in the Configuration Mode

Press



to change the selected Option of the displayed Code

Press



to cycle to the next Code

Or press



at any time to save any changes and exit the Configuration Menu

## Changing The Topside's Configuration Codes

Once you have entered the programming mode, you will have Code 1 and its selected Option showing on the display. This is shown on the display as 'C-O', where C is the current Code, and O is the currently selected/enabled Option for that code. While in programming mode the same 10 second time-out applies, if you take longer then 10 seconds to change a code's selected option or cycle through to the next code, all settings will be saved and the topside will time-out and resume normal operation.



## Conflicting Codes

You may notice, when programming the topside that certain codes may not be visible/selectable. This means you have another code set to an option that conflicts with the missing option. So if you program the topside to use the Jets-2 button to operate a two-speed Pump-2, you will no longer see the code option allowing an air blower or third pump to be used on the Jets-3 button (since those functions all use the same relay).

## Saving Configuration Menu Changes

When the settings in the configuration menu have been properly set for the spa's configuration, press the 'Aux' button (or let the menu time-out after approximately 15 seconds) to save changes and exit back to the normal operation display.

## Upon Configuration Completion

Once the topside has been initially configured, it will not lose those settings, regardless of whether power to the unit is shut off or not.

# User Configurable Settings

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## User Settings Menu

The user settings menu is home to all of the user configurable settings of the topside. See the following page for a full menu tree.

Later in this section the individual settings will be explained in further detail. What follows are the instructions on getting into, maneuvering between, and making changes to these settings, which will be referenced throughout this section.

## Entering the User Settings Menu

### Step1

Press & Hold



for ~15 seconds, until the display will reads:



### Step 2

Press



to see the first setting ('HEAT').

## Using the User Settings Menu

Press



to cycle through the different settings

Press



to view/cycle through the displayed setting's options

Press



at any time to save your settings and exit - **or** - let the topside time-out and save the settings and return to the temperature display on its own (in about 15 seconds).

# User Configurable Settings

Press & Hold



PL-1

## User Settings Menu

Display read out will look slightly different on T8-S topside, as it has an alpha-numeric display...



**Heater Mode** (Press  to view/change)

HEAT



Stand

or

Econ

(Standard or Economy)

Heating



**System Time** (Press  to view/change)

CLOC



12:A

thru

11:P

(Hour of day: 12am to 11pm)



--:00

thru

--:59

(Minutes after the hour)

(Press  to change)

Time



**Filter Cycle 1** (Press  to view/change)

FC-1



00Hr

thru

12Hr

(Cycle Duration: 0-12 hours)



12:A

thru

11:P

(Start Time: 12am-11pm)

(Press  to change)

Filtration



**Filter Cycle 2** (Press  to view/change)

FC-2



00Hr

thru

12Hr

(Cycle Duration: 0-12 hours)



12:A

thru

11:P

(Start Time: 12am-11pm)

(Press  to change)

(Continued on next page...)

## User Configurable Settings

(...Continued from previous page)

The diagram illustrates the User Interface (UI) for a device, showing five menu options and their corresponding states. Each menu item is represented by a digital display showing the current state and two possible states after pressing the '+' button.

- Filtration Purge** (Press **+** to view/change)
  - Current state: **purg**
  - Press **+** → **On** or **OFF**
- Temperature Scale** (Press **+** to change)
  - Current state: **oF**
  - Press **+** → **oF** (Fahrenheit) or **oC** (Celsius)
- Time Display** (Press **+** to view/change)
  - Current state: **tdSP**
  - Press **+** → **On** or **OFF**
- Beep on Keypress** (Press **+** to view/change)
  - Current state: **beEP**
  - Press **+** → **On** or **OFF**
- Temp Lock** (Press **+** to view/change)
  - Current state: **Locd**
  - Press **+** → **On** or **OFF**

The UI is divided into two main sections: **Filtration** (top, light blue background) and **User Interface** (bottom, light green background). The **Filtration** section contains the **Filtration Purge** menu. The **User Interface** section contains the **Temperature Scale**, **Time Display**, **Beep on Keypress**, and **Temp Lock** menus. Each menu item is preceded by a minus sign (-) in a circle, indicating a selection or navigation action.

## User Settings ('PL1') Explained

### Heater Mode ('HEAt' or 'HEAT')

The topside is set by default to operate in 'Standard' heating mode. This means that when the temperature of the water in the spa drops below the set temperature, the control automatically start heating, bringing Lo-Speed of Pump-1 (or the Circulation Pump if it is set for timed/auto operation) on as necessary.

The topside can also be set to operate in 'Economy' heating mode, where the heater will only maintain the set temperature when the pump is manually activated (if there is no 24hr Circulation Pump), and during filtration cycles. In 'Economy' mode, if the current temperature falls below the set heat temperature, the 'Heat' indicator light will flash to let you know that the unit *would* be heating if not in Economy Mode.

**Note:** On spas with Circulation Pumps that run 24 hours a day, economy mode will not effect heating behavior, the control will continue to heat as needed to maintain the set temperature, and the filtration cycle will simply control the ozonator (if applicable).

### System Time ('CLOC')

The second setting in the user's configuration menu is for setting the system time. Pressing 'Temp Up' will display the first setting, the Hour Setting. The system time is reset to the default of 12 PM whenever the units' power is reset. Pressing 'Temp Up' will cycle from 12 AM ('12:A') to 11 PM ('12:P'). Pressing 'Temp Down' takes you to the second setting, the Minutes Setting. Pressing 'Temp Up' will cycle from '--:00' thru '--:59'.

# User Configurable Settings

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## **Filter Cycle 1 ('FC-1')**

The Filter Cycle 1 setting allows you set the duration and start time for hve cycle. Pressing 'Temp Up' will show the currently set cycle duration, which can be set from 0 hours (no cycle) to 12 hours by pressing 'Temp Up' as many times as needed to reach the desired setting. Pressing 'Temp Down' will then show the cycle's start time, which can be set from 12 AM to 11 PM by pressing 'Temp Up' as needed to reach the desired setting. The factory default start time for the first daily filtration cycle is 6 AM.

## **Filter Cycle 2 ('FC-2')**

The Filter Cycle 2 setting allows you set the duration and start time for hve cycle. Pressing 'Temp Up' will show the currently set cycle duration, which can be set from 0 hours (no cycle) to 12 hours by pressing 'Temp Up' as many times as needed to reach the desired setting. Pressing 'Temp Down' will then show the cycle's start time, which can be set from 12 AM to 11 PM by pressing 'Temp Up' as needed to reach the desired setting. The factory default start time for the first daily filtration cycle is 6 PM.

## **Filtration Purge ('purg' or 'PURG')**

When the Purge Setting is turned 'On', the control will automatically purge the plumbing of whatever components the system is programmed to operate (on low speed where applicable) for 30 seconds each, starting a minute after the beginning of each cycle. This serves to push any water currently in those components' plumbing back into the main body of water for circulation and filtration.



# User Configurable Settings

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## Temperature Scale ('°F')

The topside can display the temperature in either Fahrenheit ('°F') or Celsius ('°C'). The factory default setting is Fahrenheit, and can be changed by pressing 'Temp-Up'.

## Time Display ('tdSP' or 'TDSP')

By factory default, Time Display is set to 'On'. This means that during normal operation the display will flash between the current time, and the current temperature. Turning this setting 'OFF' will make it so that the display just shows the current temperature during normal operation.

## Beep on Keypress ('bBEEP' or 'BEEP')

By default the topside will sound an internal buzzer when a button press is registered. Simply toggle this code to 'OFF' to disable the buzzer.

## Temp Lock ('Locd' or 'LOCK')

The topside can be set to lock the set temperature ('TEMP'). The default is that the lock is 'OFF'.



When the topside is set to lock the set temperature, pressing either 'Temp Up' or 'Temp Down' during normal operation will display the currently set temperature as usual. Pressing either 'Temp Up' or 'Temp Down' button again, will display 'Locd' or 'LOCK' on the screen briefly, instead of allowing the set temperature to be changed.

# Operation Instructions


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## Setting the Temperature

The temperature may be set to heat the spa water between 50°F (10°C) and 104°F (40°C).

Pressing  or  displays the currently set temperature for approximately 4 seconds.

**While the currently set temperature is being displayed:**

Press  to increase the set temperature. You can press and release right away to raise the setting incrementally by one degree, or keep the button pressed to scroll through higher temperature settings and release the button once the desired temperature is displayed.

Press  to increase the set temperature. You can press and release right away to raise the setting incrementally by one degree, or keep the button pressed to scroll through higher temperature settings and release the button once the desired temperature is displayed.

## When the control is heating...

When the control is heating, the indicator light between the temp buttons will be lit, and the display will flash between the current temperature and 'HEAT' on the T7-S or 'HEAT' on the T8-S, as shown:



or



If the indicator light between the temp buttons is flashing, this indicates that the control *would* be heating, but is currently set to economy mode.

# Operation Instructions

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## Toggling The Topside Display Orientation

The screen orientation of the topside can be easily toggled to make the display readable from either inside or outside of the hot tub.

Screen orientation can be toggled at any time, from the standard operating display (when the display is showing the current temperature/time).

To toggle the screen orientation, simply press and hold the 'Aux' button until the display reads 'PL-1', then press and hold the light button for ~6 seconds, and the display will automatically flip to be readable from the opposite direction.

### Example:

If the display was currently reading:



Press

and hold:



until the screen displays:



Then press  
and hold:




for ~6 seconds and  
the screen would flip:




## Operating Pump-1


The operation of Pump-1 depends on the configuration of your control:

### Pump-1 Operation on Single Pump Systems

Press  to toggle Hi-Speed between On/Off.  
(Will override Lo-Speed, if on)

Press  to toggle Lo-Speed between On/Off.  
(Will override Hi-Speed, if on)

### Pump-1 Operation on Dual (or Triple) Pump Systems

Press  to toggle between Lo-Speed/Hi-Speed/Off.

When Hi-Speed of Pump-1 is running the 'Jets-1' indicator light will be lit.

When Lo-Speed of Pump-1 is running the 'Jets-1' indicator light will flash.

Pump-1 will automatically shut-off after 30 minutes of operation when turned on manually. Should a system that uses Pump-1 for heating/filtration enter a heat or filtration cycle during manual operation of Pump-1, the pump will continue low speed operation until the cycle is complete.


# Operation Instructions

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## Operating Pump-2 (If Applicable)

If your control is configured for a secondary pump, it's operation depends on if it's configured to run a single speed Pump-2, or dual speed Pump-2:

### Single Speed Pump-2 Operation

Press  to toggle between On/Off.

### Dual Speed Pump-2 Operation

Press  to toggle between Lo-Speed/Hi-Speed/Off.


When Hi-Speed of Pump-2 is running the 'Jets-2' indicator light will be lit.

When Lo-Speed of Pump-2 is running the 'Jets-2' indicator light will flash.

Pump-2 will automatically shut-off after 30 minutes of operation.

## Operating Pump-3 or Air Blower (If Applicable)

If your topside control is configured to operate an auxiliary component, its operation is identical, whether it is configured to run a single speed Pump-3, or an Air Blower:

Press  to toggle between On/Off.

Whenever Jets-3 is active, the 'Aux' indicator light will be lit.

Jets-3 will automatically shut-off after 30 minutes of operation.

## Operating the Spa Light

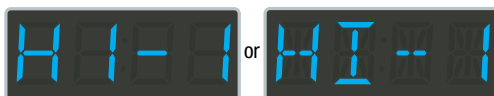
To operate the spa light, simply press  to toggle between On/Off.

The light will automatically shut-off after 4 hours of operation.

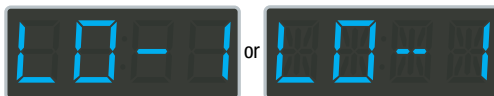
**Note:** If your spa also has a United Spa Controls Multi-Function LED Light installed in it, you can simply turn the light off and on again within 3 seconds to cycle to the next color function. Almost any spa using an industry standard 12V light harness can be upgraded to a United Spa Controls Multi-Function LED Light. For more information, please contact your local dealer or serviceman for more information.

# Standard Display & Error Messages

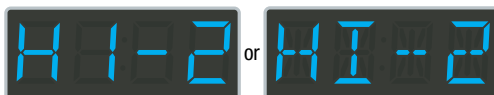
**Hi-Speed Pump-1** - This message will display briefly when Hi-Speed of Pump-1 is activated.



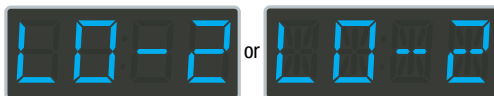
**Lo-Speed Pump-1** - This message will display briefly when Lo-Speed of Pump-1 is manually activated.



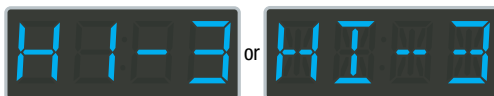
**Hi-Speed Pump-2** - This message will display briefly when Hi-Speed of Pump-2 is activated.



**Lo-Speed Pump-2** - This message will display briefly when Lo-Speed of Pump-2 is activated.



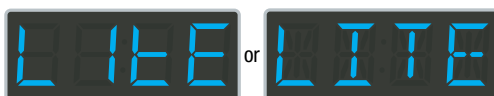
**Hi-Speed Pump-3** - This message will display briefly when Hi-Speed of Pump-3 is activated.



**Air** - This message will display briefly when the air blower is activated.



**Light** - This message will display briefly when the spa light is activated.



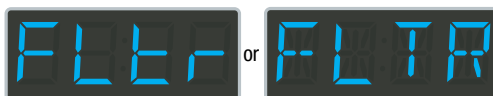
**Freeze Protection** - One of the sensors is reading under 45°F/8°C. Lo-Speed Pump-1 cannot be shut off, and no other equipment will function until the sensors read that the water has risen to at least 48°F/9°C. Once that happens, this message will disappear.



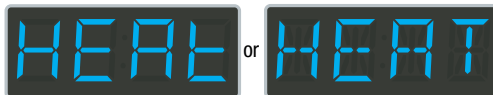


# Standard Display & Error Messages

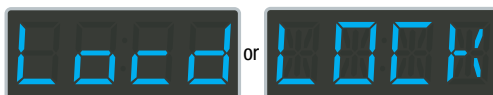
**Filtration Cycle** - A filtration cycle is in progress. This flashing message will disappear on its own once the current filtration cycle completes.



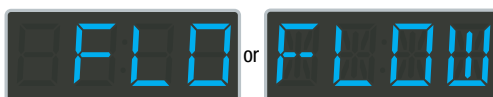
**Heat** - The spa is heating. This message will disappear once the heater shuts off.



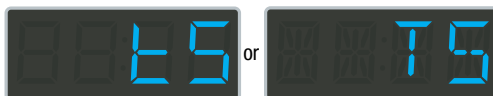
**Locked** - This message displays briefly whenever access is denied the temperature setting.  
(See page 19).



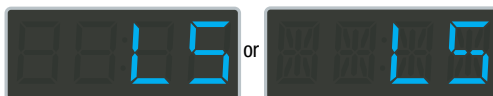
**Flow Error** - The pressure switch is not registering enough flow for safe heater operation. Check pressure switch and pump/plumbing/water flow.



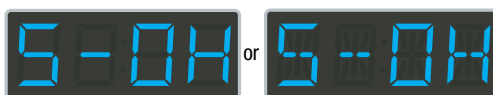
**Temperature Sensor Error** - The temperature sensor is malfunctioning, or not properly connected. Reconnect or replace temperature sensor as needed.



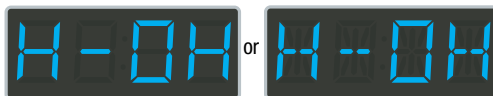
**Hi-Limit Sensor Error** - The hi-limit sensor is malfunctioning, or not properly connected. Reconnect or replace temperature sensor as needed.



**Software Overheat** - The temp sensor is reading over 116°F/46°C. Once the temperature drops to at least 103°F/39°C press and hold the Temp Down button for 10 seconds to reset.



**Hardware Overheat** - The hi-limit sensor is reading over 118°F/48°C. Once the temperature drops to at least 103°F/39°C press and hold the Temp Down button for 10 seconds to reset. Until the unit reaches 103°F/39°C Lo-Speed Pump-1 will be kept running in attempt to evenly distribute the build-up of heat.



## United Spa Controls One Year Limited Warranty

United Spa Controls warrants, to the original purchaser, the spa control equipment against defects in materials or workmanship for a period of fourteen months from date of manufacture. The obligation of this warranty shall be limited to repairing or replacing the part, which in the opinion of the company shall be proved defective in materials or workmanship. This limited warranty does not include the limitations described below.

**Limitations of Coverage:** This warranty does not cover failures due to: damage, freezing, power failure, power reduction, unusual atmospheric conditions, rust or corrosion, repairs necessary because of operator negligence, improper re-packaging, and damage incurred in shipping. This warranty does not cover thermostat calibration, plumbing, and expendable items (gaskets, o-rings, filter cartridges).

**Acts Invalidating Warranty:** This warranty shall be invalid if this equipment has been subjected to alterations, misuse or abuse, improper water chemistry, improper handling, improper installation, repairs (or attempted repairs) which in United Spa Controls' judgment adversely affects the product's performance/reliability, or if the equipment is used for commercial purposes (used for other than single family household purposes). Misuse and abuse shall include application, installation, or operation outside of the environment and limitations for which it was designed. This warranty shall also be invalid if the spa equipment is damaged by earth or ground fill movement, fire, flood, wind, lightning, by act of God, accident, or by intentional, reckless, or negligent acts of any person.

**Warranty Performance:** All warranty service and/or replacement of parts must be performed by an individual or service company that has been authorized by United Spa Controls. If within the warranty period, any such products shall prove defective, it shall be replaced at United Spa Controls' option as follows: 1) The original retail purchaser shall first contact the point of purchase or the installing dealer, as soon as possible after discovery of the defect, but in no event later than the expiration date of this warranty. Processing claims should be initiated by the point of purchase or the installing dealer. 2) A Return Merchandise Authorization (RMA) form must be completed and submitted to United Spa Controls by the point of purchase or the installing dealer. 3) United Spa Controls will issue an RMA for eligible items that are not out of their warranty period. 4) Defective items may then be packaged along with note that contains the issued RMA number and return shipping information in a box marked with the issued RMA number and shipped to: United Spa Controls, 5614 E La Palma Ave, Anaheim, CA 92807. The customer must pay for all shipping charges and no product shall be returned to United Spa Controls without prior consent. 5) After receipt of the products, supporting documents, and verification of the nature and cause of the defect, United Spa Controls will replace or repair the defective product or issue warranty credit for eligible items at United Spa Controls' option.

Removal charges, re-installation charges, any other associated labor, and freight charges to and from United Spa Controls of the failed part shall be the purchaser's responsibility. Any warranty replacement or repair shall be subject to the terms and condition of this warranty for the remainder of the original period of coverage. United Spa Controls reserves the right to inspect any malfunction or defect on location.

**Disclaimers, Legal Remedies:** This warranty is limited and shall be in lieu of all other warranties, expressed or implied, including but not limited to, any implied warranty or merchantability or fitness for a particular purpose. There are no other warranties that extend beyond the description of the face hereof. In no event shall United Spa Controls be liable for labor or material charges in connection with removal or replacement of the defective products. United Spa Controls is not liable for the incidental or consequential damages, loss of profit, loss of time, inconvenience and incidental expenses. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary state to state. United Spa Controls reserve the right to change its warranty at any time.





## **United Spa Controls**

5614 E La Palma Ave  
Anaheim, CA 92807

Web: [UnitedSpaControls.com](http://UnitedSpaControls.com)  
E-mail: [support@unitedspacontrols.com](mailto:support@unitedspacontrols.com)  
Phone: 714-982-0170  
Fax: 888-715-0286