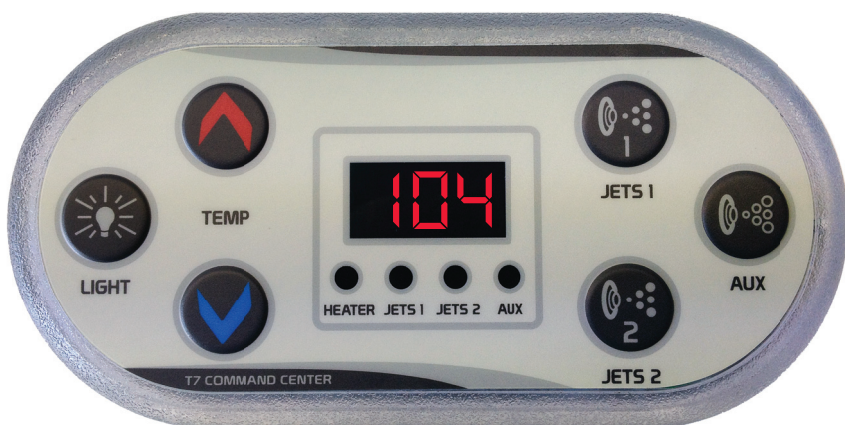




T7 Topside

User's Guide



For C5 Series Control Boxes with the T7 Topside
Revision 02.12

End User Disclaimer:

United Spas, Inc. (United Spas) controls have absolutely no end user serviceable parts. United Spas does not authorize attempts by the spa owner/user to install or repair/service any United Spas 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 it's entirety before attempting to operate this United Spas control. 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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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.

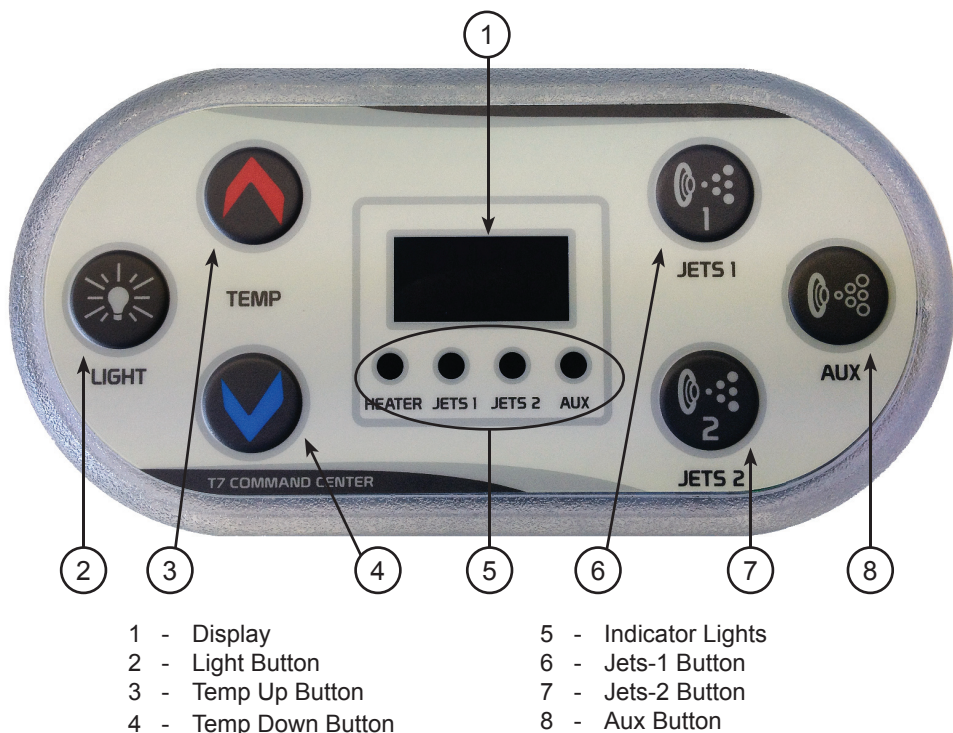
15. **Warning:** The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in hot tubs and spas

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

The T7 Topside

The T7 Topside

You will be using the T7 topside to operate your United Spas C5 Series control box. The T7 is pictured below, with the descriptions of the items that will be referenced throughout this user's guide.





The T7 topside uses United Spas' patent pending Spa-Touch™ 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 buttons with the ball of your finger, and not the tip or nail. Excess/puddled water on the topside may also cause the topside not to register button presses. If this occurs, simply wipe away the excess water with your hand, wait five seconds, and try pressing the button again.


User Configurable Settings


Setting the Temperature

The temperature may be set to heat the spa water between 40°F (4°C) and 104°F (40°C).

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

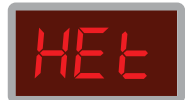
While the currently set temperature is being displayed:

Press  to increase the set temperature, either releasing right away to raise the setting by one degree, or keeping the button pressed to scroll through higher temperature settings.

Press  to decrease the set temperature, either releasing right away to lower the setting by one degree, or keeping the button pressed to scroll through lower temperature settings.

T7 Heating Modes: 'Standard' and 'Economy'

The T7 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 (if there is no 24 hour Circulation Pump) on as necessary. If there is a Circulation Pump, but control has been set/wired for timed operation, then the control will automatically bring it on as needed for heat. When the control is heating, the 'Heat' indicator light will be lit, and the display will flash between the current temperature and 'HEt' as shown.



User Configurable Settings

The T7 can also be set to operate in 'Economy' heating mode, where the heater will only maintain the set temperature when Lo-Speed of Pump-1 is manually activated (if there is no Circulation Pump), or 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: If you have a Circulation Pump that operates 24 hours a day, economy mode will not effect heating behavior, and the control will continue to heat as needed to maintain the set temperature.

Switching Between Heating Modes

Step 1

Press and hold



AUX

for 6 seconds until display reads



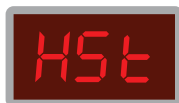
Step 2

Then lift your finger, and press



and the display will show the

current heating mode:



or



[Heat Mode: Standard]

[Heat Mode: Economy]

Step 3

Press



to cycle between heating modes.

Step 4

Press



AUX

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

T7 User Settings Menu

The T7's user settings menu is home to all of the user configurable settings of the T7 topside. The Heating Mode setting (see page 7) is the first setting in the user settings menu. 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 general instructions on getting into, maneuvering, and making and saving changes to these settings, which will be referenced throughout this section.

Entering the User Settings Menu

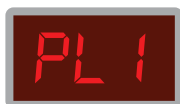
Step 1

Press and hold



AUX

for 6 seconds until display reads



Step 2

Then lift your finger, and press



to see the first setting.

Using the User Settings Menu

Press



to cycle through the different settings

Press



to cycle through the displayed setting's options

Press

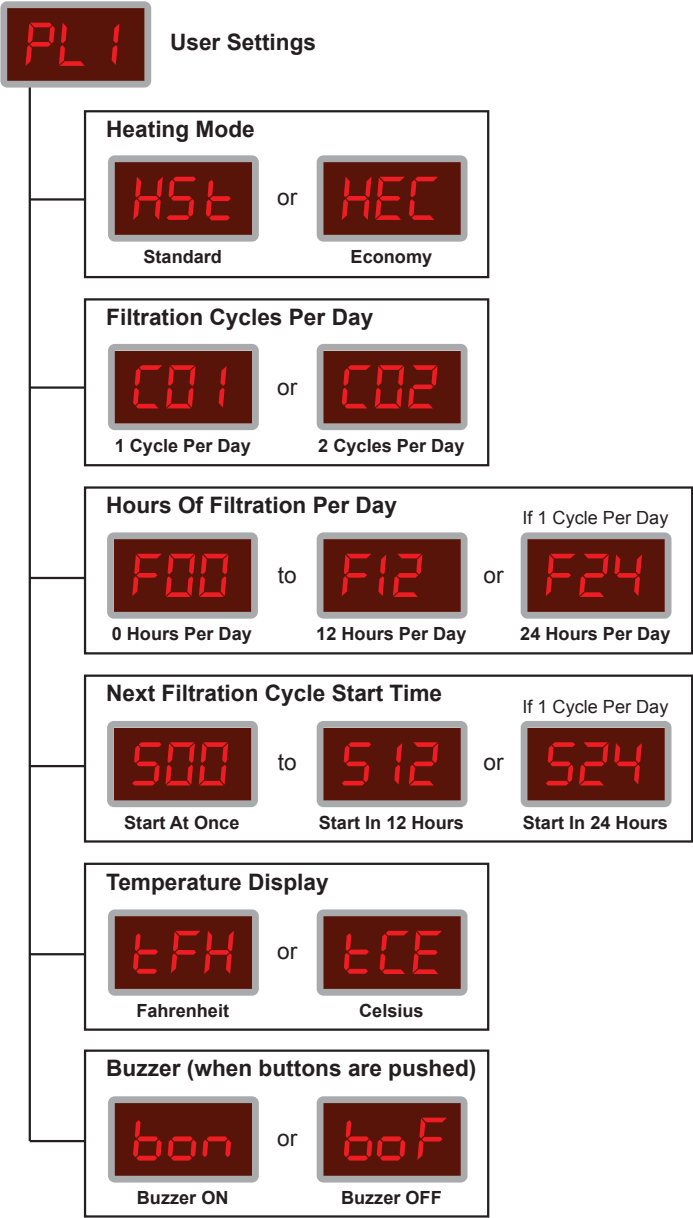


AUX

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

T7 User Settings Menu Tree



T7 Filtration Cycle Operation

By default, the T7 topside will call for the control to filter the spa a total of 4 hours a day, split into two filtration cycles. It is during these filtration cycles that the control will run the spa's ozonator, if one is installed. The first 2 hour filtration cycle will start 1 hour after power is first supplied to the control. It is possible to change the number of filtration cycles a day (between 1 or 2), the number of total hours of filtration a day, and the start time of the next cycle. When cycling twice a day the next cycle will start 12 hours from the start of the previous cycle, and when cycling once a day the next cycle will start 24 hours after the previous cycle. Should the unit lose power, upon reset it will remember the number of filtration cycles and duration, but default the start time of the next cycle to 1 hour after power is restored. During filtration cycles, the display will flash between the current temperature and 'F_C' to indicate a filtration cycle is in progress.

Changing Filtration Cycle Settings

The filtration settings can be changed by following the instructions on entering and changing settings in the T7's user settings menu found earlier in this section. What follows is a description of what the filtration related settings are and the options you can select for each of those settings:

Filtration Cycles Per Day [C01 or C02]:

The number of filtration cycles per day. You can select between 1 cycle a day, or two cycles per day.

Hours Of Filtration Per Day [F00/F02/F04/F06/F08/F10/F12 or F00 - F24]:

The total number of hours the control should filter per day. If the T7 set to the default of 2 cycles per day, any even number of hours 0 through 12 may be selected. If the T7 is set for 1 cycle a day, 0 through 24 hours of filtration may be selected.

Next Filtration Cycle Start Time [S00 -S12 or S00 - S24]:

The number of hours until the next filtration cycle starts. If the T7 set to the default of 2 cycles per day, 0 through 12 may be selected. If the T7 is set for 1 cycle a day, 0 through 24 hours may be selected.

User Configurable Settings

Changing the Temperature Display Setting

The T7 topside can display the temperature in either Fahrenheit or Celsius. The default setting is Fahrenheit, but by following the instructions provided earlier in this section on how to change settings in the user settings menu you can toggle the temperature display setting between Fahrenheit and Celsius.

Changing the Buzzer Setting

By default the T7 topside will sound an internal buzzer when a button press is registered. If for any reason you wish to disable this sound, simply toggle this code off.

Operation Instructions

Operating the Spa Light

To operate the spa light, simply press



to toggle between On/Off.


LIGHT


Note: If your spa also has a United Spas 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 Spas Multi-Function LED Light. For more information, please contact your local dealer or serviceman for more information.

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)
JETS 1

Press  to toggle Lo-Speed between On/Off.
(Will override Hi-Speed, if on)
JETS 2

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

Press  to toggle between Lo-Speed/Hi-Speed/Off.
JETS 1


Whenever Hi-Speed of Pump-1 is running the 'Jets-1' indicator light will be lit. Likewise, whenever Lo-Speed of Pump-1 is running the 'Jets-1' indicator light will flash.

Operation Instructions


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.
JETS 2


Dual Speed Pump-2 Operation

Press  to toggle between Lo-Speed/Hi-Speed/Off.
JETS 2

In the Single Speed Pump-2 configuration the 'Jets-2' indicator light will be lit when Pump-2 is on. In the Dual Speed Pump-2 configuration, when Hi-Speed is running the 'Jets-2' indicator light will be lit. Likewise, whenever Lo-Speed of Pump-2 is running the 'Jets-2' indicator light will flash.

Operating Aux (Pump-3/Air Blower - If Applicable)

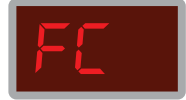
If your control is configured to operate an auxiliary component, its operation is identical, whether it is configured to run a single speed Pump-3, or an Air Blower:

Press  to toggle between On/Off.
AUX

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

Standard Display & Error Messages

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



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



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.



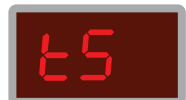
Software Overheat - The temperature sensor is reading over 113°F/45°C. Once the temperature drops to at least 103°F/39°C press and hold the Temp Down button for 10 seconds to reset.



Hardware Overheat - The hi-limit sensor is reading over 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. 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.



Temperature Sensor Error - The temperature sensor is malfunctioning, or not properly connected.



Hi-Limit Sensor Error - The hi-limit sensor is malfunctioning, or not properly connected.



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



Warranty

United Spas One Year Limited Warranty on Spa Controls


United Spas, Inc. warrants, to the original purchaser, the Spa Control Equipment against defects in materials or workmanship for a period of one year from date of purchase. 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, expendable items (gaskets, o-rings, filter cartridges).

Acts Invalidating Warranty: This warranty shall be invalid if this equipment has been subjected to alterations, misuses or abuse, improper water chemistry maintenance or used for commercial purposes (used in 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, or other than in accordance with United Spas or the spa manufacturer printed instructions. 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 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 Spas. The purchaser may obtain the benefits of warranty coverage on a failed part by having the servicing company remove the part and send it for inspection, along with proof of purchase and field service report, freight pre-paid, to: United Spas 2480-B N. Glassell St., Orange, CA 92865 If the failure is covered by the warranty, there will be no charge for the repaired or replacement part. Removal charges, re-installation charges, and freight charges to and from United Spas of the failed part shall be the purchaser's responsibility. Any such 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 Spas reserves the right to inspect the malfunction or defect on location.

Disclaimers, Legal Remedies: United Spas shall not be liable for the loss of use of any equipment. This warranty is in lieu of all other expressed warranties obligations or liabilities, any implied warranty of merchantability, shall be limited in duration to the duration of this written limited warranty. Any action for breach of warranty hereunder, including but not limited to, any applied warranty of merchantability must be brought within a period of 12 months from date of purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. No agent, representative, dealer or employee of the company has the authority to increase or alter the obligations of this warranty. In no case shall the company be liable for any incidental or consequential from state to state. United Spas does not authorize any person or company to assume for it any other obligation or liability in connection with the sale, application, engineering, damages for breach of this of any other warranty, expressed or implied, whatsoever. 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 installation use, removal, return, or replacement of it's systems: and no such representations are binding on United Spas.

A decorative graphic consisting of two overlapping teal waves, with the darker teal wave in the foreground and the lighter teal wave behind it, creating a sense of depth and movement.

United Spas, Inc.
2480-B N. Glassell St.
Orange, CA 92865

Web: <http://www.UnitedSpas.com>
E-mail: sales@unitedspas.com
Phone: 714-282-1117
Fax: 714-282-8684

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