

AquaLink® TRI® Controller

WARNING

FOR YOUR SAFETY - This product must be installed and serviced by a licensed electrician in accordance with AS/NZ 3000 - 2007 and any other local regulations. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.

Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.

EQUIPMENT INFORMATION RECORD

DATE OF INSTALLATION _____

INSTALLER INFORMATION _____

**INITIAL PRESSURE GAUGE READING
(WITH CLEAN FILTER)** _____

PUMP MODEL _____ **HORSEPOWER** _____

FILTER MODEL _____

CONTROL PANEL MODEL SERIAL NUMBER _____

NOTES: _____

Table of Contents

Section 1. Important Safety Instructions	4
Section 2. Using the TRI Controller	7
2.1 The User Interface (UI).....	7
2.2 Navigation Buttons	8
Section 3. Main Menu	9
3.1 Equipment Status	9
3.2 Pool Mode	10
3.3 Pool Heater ON/OFF	11
3.4 Spa Mode	12
3.5 Spa Heater ON/OFF.....	13
3.6 Turn AUX1 or AUX2 ON/OFF	14
3.7 Define System Settings	15
3.8 Turn Specific Equipment ON/OFF Manually	21
3.9 Turn All Equipment OFF	21
3.10 Adjust Variable Speed Pump (VSP)	22
Section 4. Menu Flow Diagrams	23
4.1 Pool/Spa Combination System Main Menu.....	23
4.2 Pool Only System Main Menu	24
Section 5. Glossaries.....	25
5.1 Glossary of Safety Delays and Lockouts.....	25
5.2 Glossary of Messages.....	26

Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

All electrical work must be performed in accordance with AS/NZ 3000 - 2007. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

DANGER

To reduce the risk of severe injury or death, do not remove the suction fittings of your spa or hot tub. Never operate a spa or hot tub if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the equipment assembly.

WARNING

Prolonged immersion in hot water may induce hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 37°C (98.6°F). The symptoms of hyperthermia include dizziness, fainting, drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include: 1) unawareness of impending danger; 2) failure to perceive heat; 3) failure to recognize the need to exit spa; 4) physical inability to exit spa; 5) fetal damage in pregnant women; 6) unconsciousness resulting in a danger of drowning. The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia.

WARNING

Risk of electric shock which could result in severe injury or death - Install the controller at least 3.5 metres from the inside wall of the pool and/or hot tub using non-metallic plumbing.

Children should not use spas or hot tubs without adult supervision.

Do not use spas or hot tubs unless all suction guards are installed to prevent body and hair entrapment.

People using medications and/or having an adverse medical history should consult a physician before using a spa or hot tub.

WARNING

To avoid injury ensure that you use this control system to control only packaged pool/spa heaters which have built-in operating and high limit controls to limit water temperature for pool/spa applications. This device should not be relied upon as a safety limit control.

 **WARNING****To Reduce the Risk of Injury -**

- a) The water in a spa should never exceed 40°C (104°F). Water temperatures between 38°C (100°F) and 40°C (104°F) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.
- b) Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 38°C (100°F).
- c) Before entering a spa or hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices varies.
- d) The use of alcohol, drugs, or medication before or during spa or hot tub use may lead to unconsciousness with the possibility of drowning.
- e) Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a spa.
- f) Persons using medication should consult a physician before using a spa or hot tub since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.

 **WARNING**

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

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

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

Pregnant or possibly pregnant women should consult a physician before using a spa or hot tub.

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

Before entering a spa or hot tub, measure the water temperature with an accurate thermometer.

Do not use a spa or hot tub immediately following strenuous exercise.

Prolonged immersion in a spa or hot tub may be injurious to your health.

Do not permit any electric appliance (such as a light, telephone, radio, or television) within 1.52m of a spa or hot tub.

The use of alcohol, drugs or medication can greatly increase the risk of fatal hyperthermia in hot tubs and spas.

⚠ WARNING

A terminal bar marked "GROUND" is provided within the controller. To reduce the risk of electrical shock which can cause serious injury or death, connect this terminal bar to the grounding terminal of your electric service or supply panel with a continuous copper conductor having green insulation and one that is equivalent in size to the circuit conductors supplying this equipment in accordance with AS/NZ 3000 - 2007. In addition, where required, bonding should be extended in accordance with AS/NZ 3000 - 2007 to any metal ladders, water pipes, or other metal within 1.52m of the pool/spa.

⚠ CAUTION

Power to the Aqualink TRI should be supplied by an isolating transformer or through a residual current device (RCD) with a rated residual operating current not exceeding 30mA



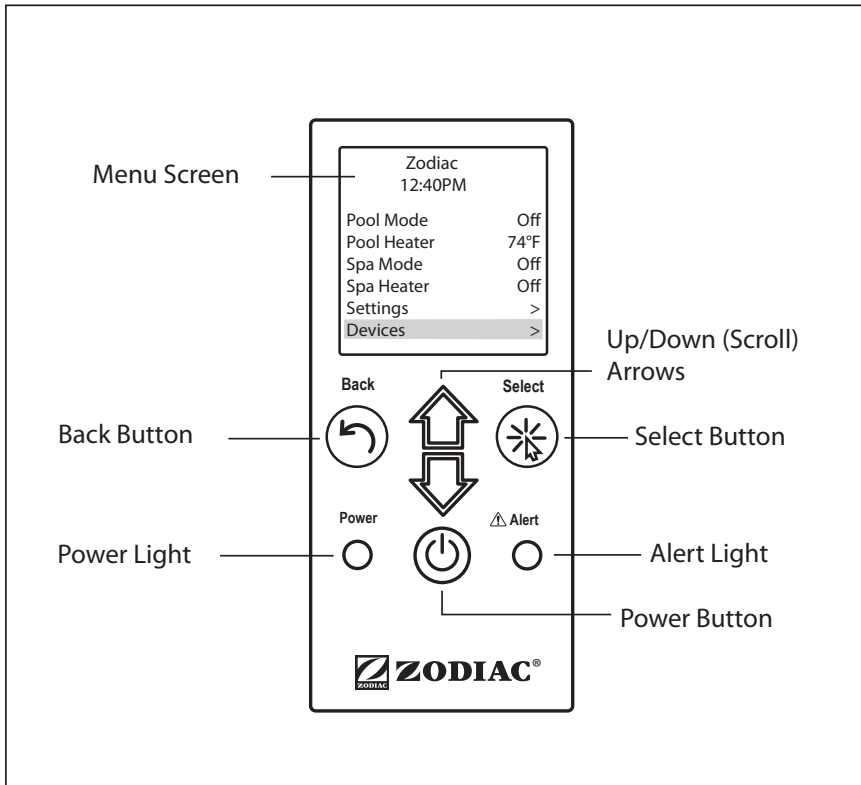
Attention installer: Install to provide drainage of compartment for electrical components.

SAVE THESE INSTRUCTIONS

Section 2. Using the TRI Controller

2.1 The User Interface (UI)

All system programming and setup is performed through the AquaLink TRI UI located on the front of the controller. (This applies even when connected to iAquaLink. For full iAquaLink programming and functions please visit www.iaqualink.com)



2.2 Navigation Buttons

Use the following UI buttons to access and select all menus and commands:



On/Off

Turn UI power on/off.



Up/Down

Scroll up/down within current menu to highlight a specific menu command.



Back

Go back to previous menu.

To return to Main menu, press Back button repeatedly to cycle back through menus.



Select

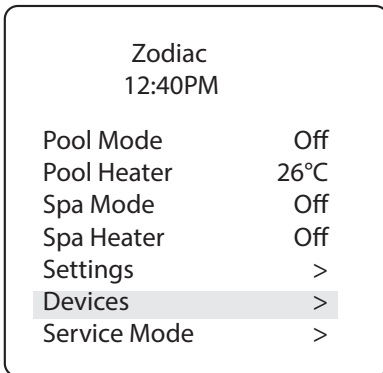
Select current highlighted menu command.

Display the next related command or activate the selected function.

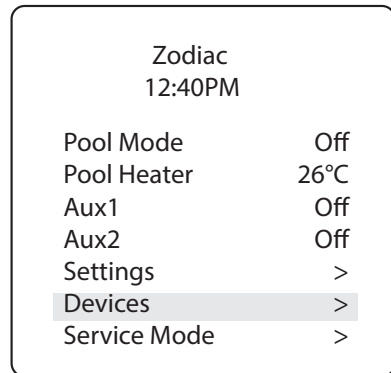
Section 3. Main Menu

From the Main menu, access commands to turn equipment on/off, program scheduled times to turn equipment on/off automatically, and view current operating status for specific equipment in your configuration.

NOTE: If a spa is not part of your equipment, the Main menu displays AUX1 and AUX2 instead of SPA MODE and SPA HEATER. Spa menu options are displayed only in AquaLink TRI Pool/Spa configurations.



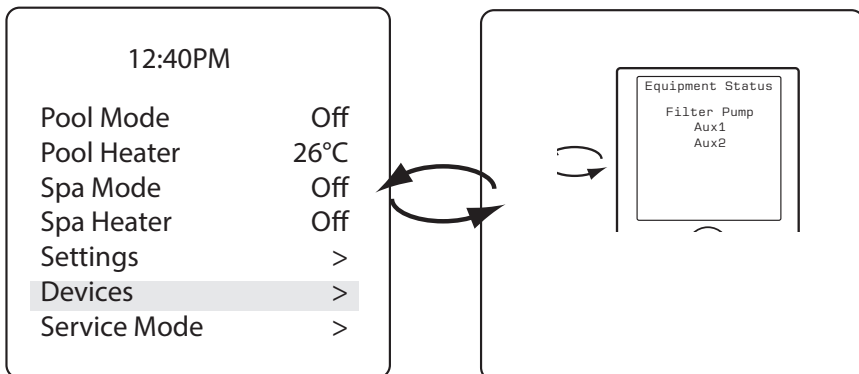
Main Menu (Pool/Spa)



Main Menu (Pool Only)

3.1 Equipment Status

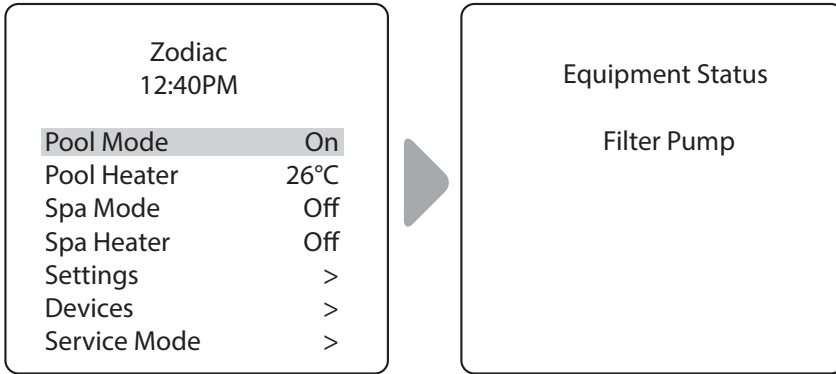
If any of the equipment is currently enabled in your system, the screen alternately displays the Main menu and the Equipment Status screen.



3.2 Pool Mode

MAIN > POOL MODE

Turn on Pool Mode whenever you want to filter the pool. Pool Mode enables the filter pump to circulate water through the filter and pool heater.

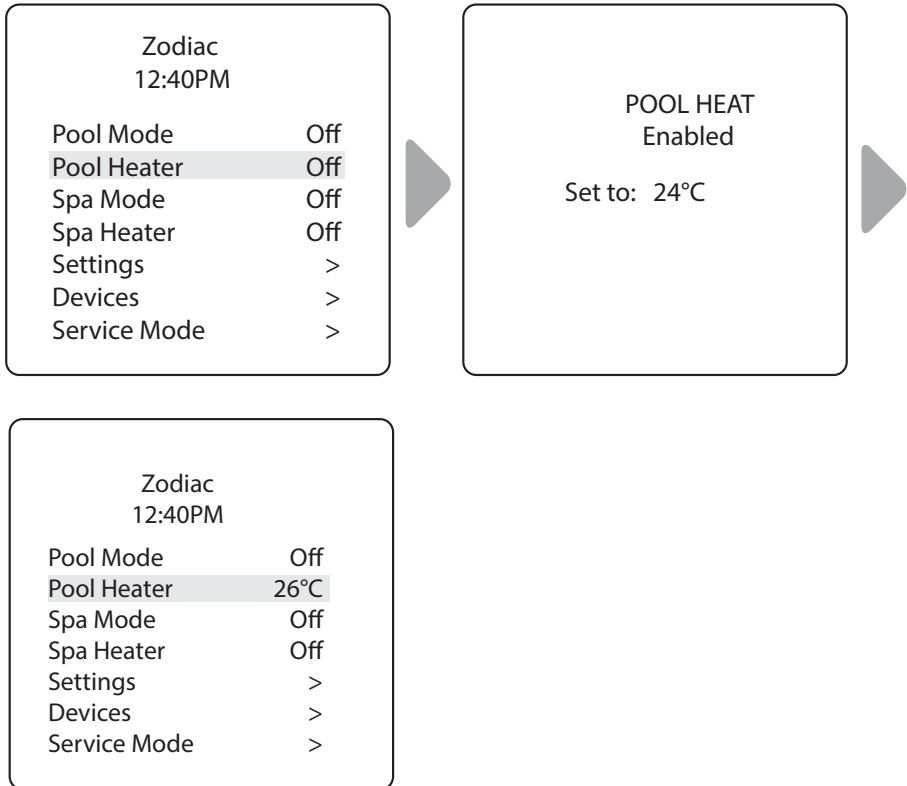


- When Pool Mode is activated, the Equipment Status menu is displayed indicating the Filter Pump is ON.
- In Pool Mode, if there is a chlorinator installed, the chlorinator remains enabled until Pool Mode is turned off (unless the chlorinator is on a separate timer).

3.3 Pool Heater ON/OFF

MAIN > POOL HEATER

Enable the heater for the pool. Heater will turn on automatically as long as the filter pump is on and the water temperature is below the temperature set point.



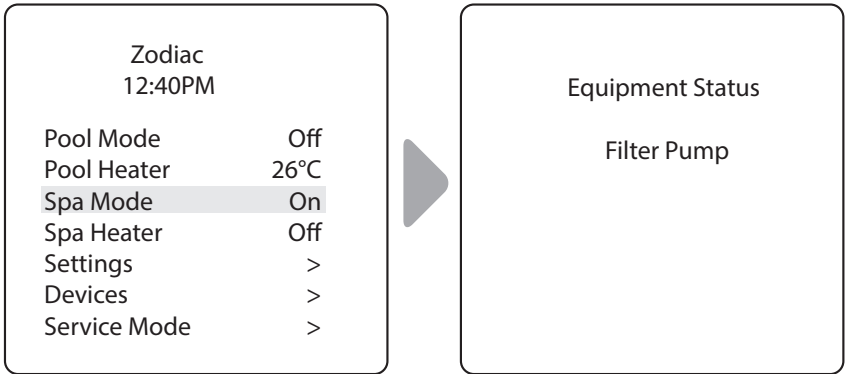
- Increase or decrease current pool temperature by pressing Select to highlight the setting. Press Up/Down arrows to increase or decrease temperature.
- To turn pool heater OFF, press Select when Pool Heater is highlighted in the Main menu.

3.4 Spa Mode

MAIN>SPA MODE

NOTE: You will only see this option if you have a pool/spa configuration.

Turn on Spa Mode whenever you want to filter the spa. Spa Mode enables the filter pump to circulate water through the filter and spa heater.



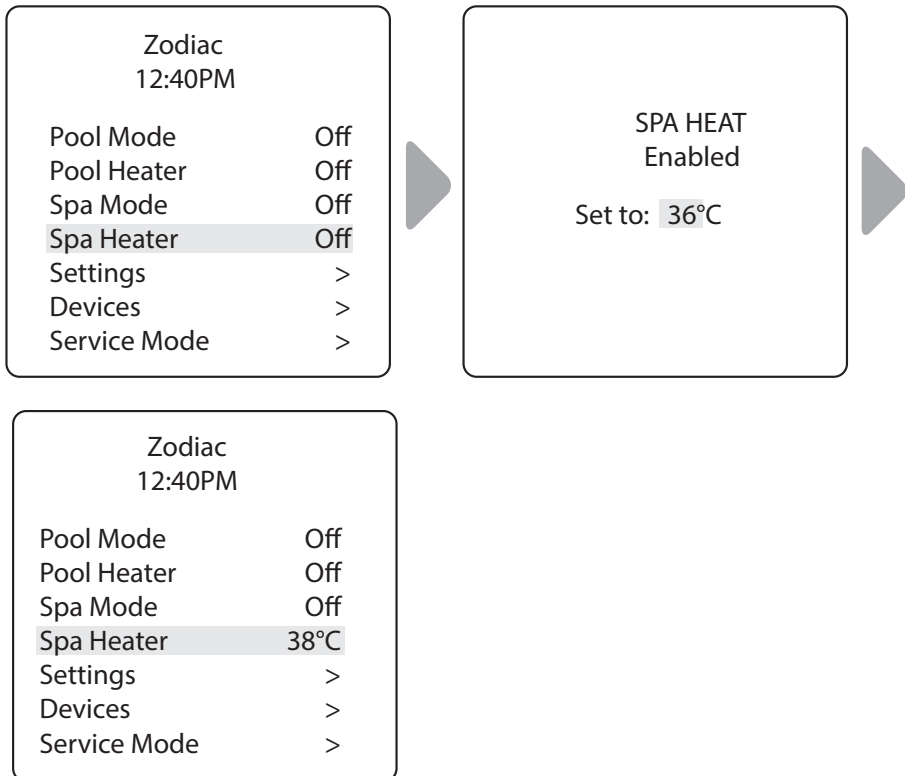
- When Spa Mode is activated, the Equipment Status menu is displayed indicating the Filter Pump is ON.

3.5 Spa Heater ON/OFF

MAIN > SPA HEATER

NOTE: You will only see this option if you have a pool/spa configuration.

Enable the heater for the spa. Heater will turn on automatically as long as the filter pump is on and the water temperature is below the temperature set point.



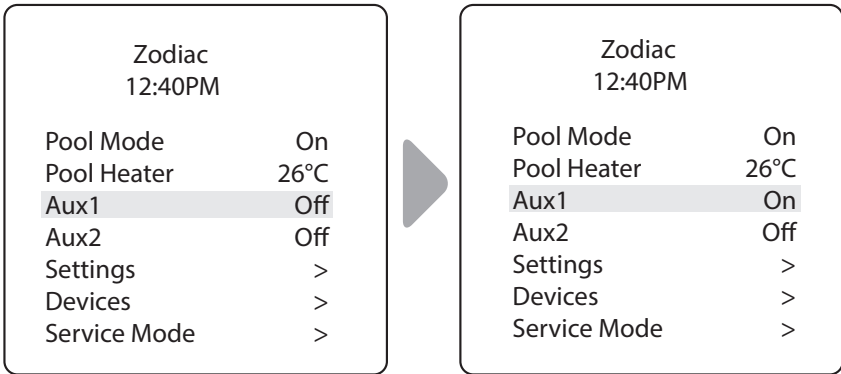
- Increase or decrease current spa temperature by pressing Select to highlight the setting. Press Up/Down arrows to increase or decrease temperature.
- To turn spa heater OFF, press Select when SPA HEAT is highlighted in the Main menu.
- When you turn the spa heater OFF and switch to Pool Mode, there is a five-minute cool-down delay and water continues to circulate to prevent equipment damage.

3.6 Turn AUX1 or AUX2 ON/OFF

MAIN > AUX1, AUX2

NOTE: If you have assigned labels to auxiliary equipment, the label is displayed in the Main menu. (Refer to *Label Auxiliary Functions* in the Installation Manual for additional information.)

Turn ON or OFF auxiliary equipment, for example pool and spa lights, waterfalls, or air blowers.



3.7 Define System Settings

MAIN > SETTINGS

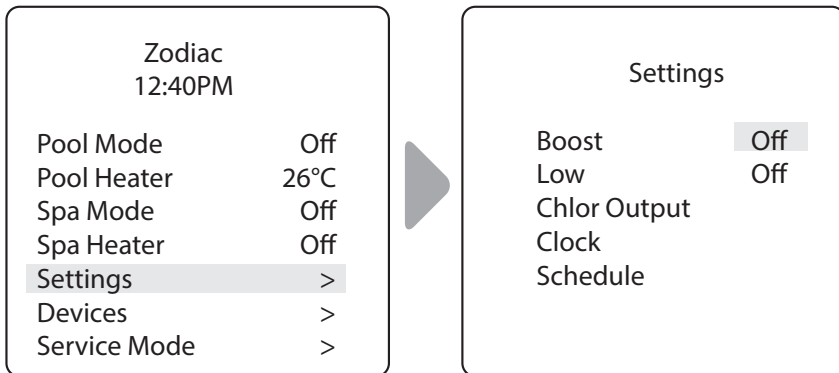
Adjust chlorine output settings for installed automatic chlorination system (if applicable), set the system time clock, and define schedules for equipment to turn ON/OFF automatically.

Set Boost ON/OFF:

MAIN > SETTINGS > BOOST

NOTE You will only see this option if a compatible chlorination system is installed.

Turn on the chlorination system so it will run at 100% output for the next 24 hours.

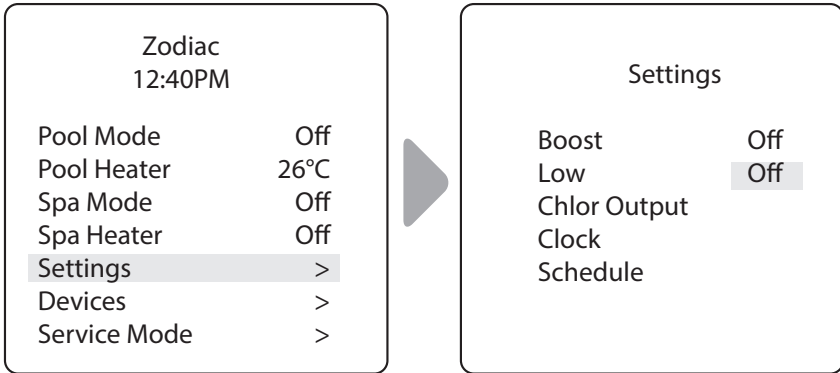


Set Low ON/OFF:

MAIN > SETTINGS > LOW

NOTE: You will only see this option if a compatible chlorination system is installed.

Turn on the chlorination system so it will run at the preset Low Output setting. Low Output Setting is the minimum percentage of chlorine you want in the pool or spa water when running it at the Low setting.

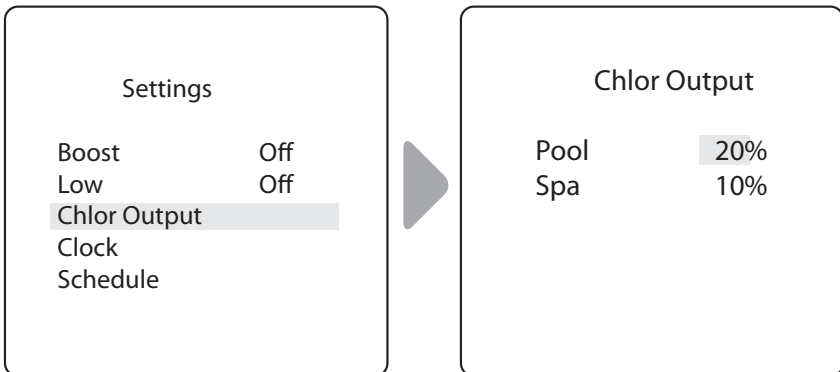


Adjust Chlorine Low Output Setting:

MAIN > SETTINGS > CHLOR OUTPUT

NOTE: You will only see this option if a compatible chlorination system is installed.

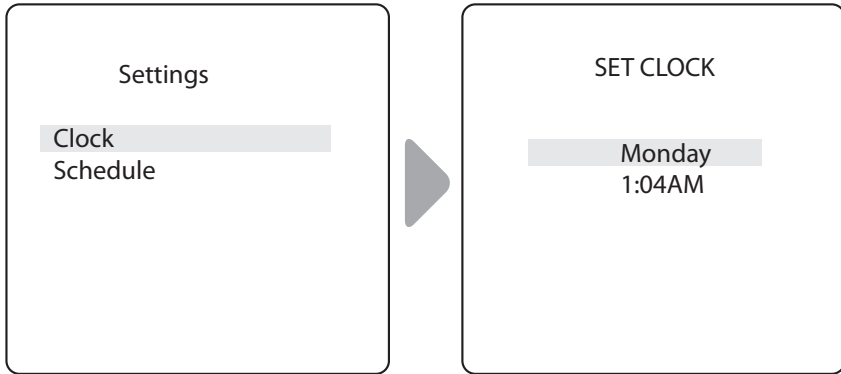
Adjust the percentage of chlorine output higher or lower than the current default settings. Default setting for Pool is 20%. Default setting for Spa is 10%.



Set the System Clock:

MAIN > SETTINGS > CLOCK

Set the current day of the week and time. This setting is the time clock basis for defining schedules for the filter pump and other equipment.



- Current programmed day flashes when selected. Scroll through days of the week to display desired day, then press Select.
- Current programmed time (hour) flashes when selected. Scroll through 24 hours to display desired time, then press Select.
- Current programmed time (minutes) flashes when selected. Scroll through 60 minutes to display desired time, then press Select.

Define Specific Equipment ON/OFF Schedules:

MAIN > SETTINGS > SCHEDULES

Define automatic ON and OFF times for specific equipment in your installation. You may set different schedules for any single day, weekdays, weekends, or assign the same schedule for all days. Set a maximum of ten programs combined.

Define schedules for the following equipment as applicable:

- Filter Pump
- Pool Heater
- Spa Heater (if applicable)
- Solar Heater (if applicable)
- Aux1, Aux2, and Aux3 (as applicable)

NOTE: You will only see equipment listed in the menu if it is installed as part of your system.

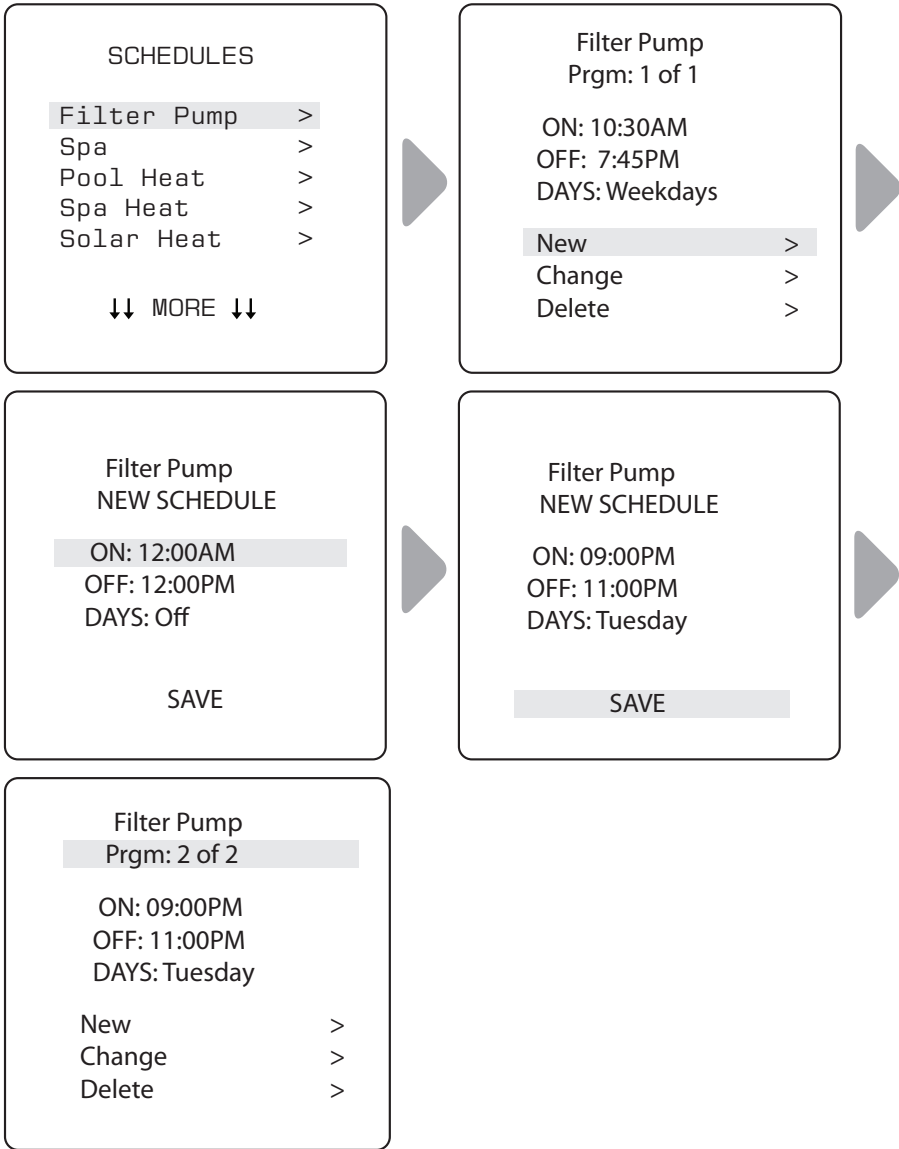
Example: Define Filter Pump Schedule

MAIN > SETTINGS > SCHEDULES > FILTER PUMP

NOTE: Example shown is for defining the filter pump schedule. The procedure to define or change ON / OFF times for all equipment listed in Schedules Menu is identical to defining Filter Pump schedule.

- Choose CHANGE to change the current displayed schedule for selected equipment.
- Choose DELETE to remove the current schedule from system programming. The system asks for verification:
Delete? No Yes.
- If there is no schedule currently set up for the selected equipment, the system displays the message: *No Schedules Entered*. Choose NEW to begin programming a schedule.
- If there is more than one schedule currently set up for the selected equipment, the system indicates total number of programs currently entered for this equipment (e.g., Program 2 of 2).
- Set ON time and OFF times:
 - Current programmed time (hour) flashes when selected. Scroll through 24 hours to display desired time, then press Select.
 - Current programmed time (minutes) flashes when selected. Scroll through 60 minutes to display desired time, then press Select.
- Set DAYS:
 - Current programmed day flashes when selected. Scroll through days of the week to display desired day, ALL DAYS, WEEKENDS, or WEEKDAYS, then press Select.
- When you select SAVE to enter new program data, the system indicates total number of programs currently entered for this equipment (e.g., Program 2 of 2).

Example: Define Filter Pump Schedule (continued)



- Choose NEW to keep the schedule displayed and program an additional schedule for selected equipment.

3.8 Turn Specific Equipment ON/OFF Manually

MAIN > DEVICES

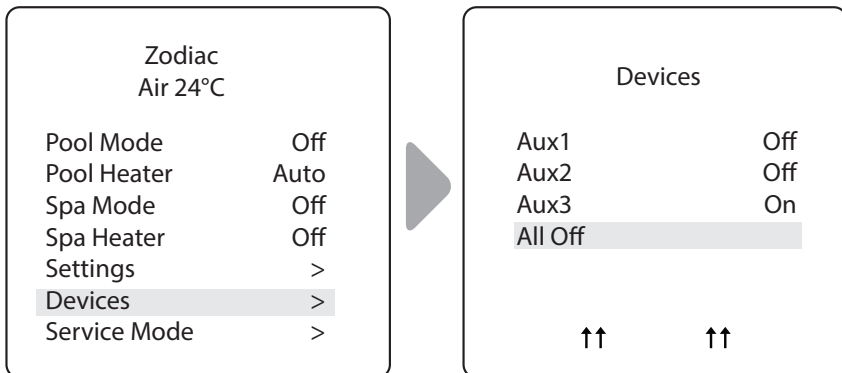
Turn selected equipment ON and OFF manually. The following equipment may be displayed depending on your pool's configuration:

- Filter Pump
- Spa (*only displayed in Pool/Spa configurations)
- Pool Heat/Temp1
- Spa Heat/Temp2 (*only displayed in Pool/Spa configurations)
- Solar Heat (*only displayed if a solar heater and solar sensor is part of your configuration)
- Aux1, Aux2, and Aux3 (* only if unlabeled auxiliaries; labeled equipment is displayed by name)

3.9 Turn All Equipment OFF

MAIN > DEVICES > ALL OFF

Manually turn OFF all equipment that is currently turned on or enabled in your system.

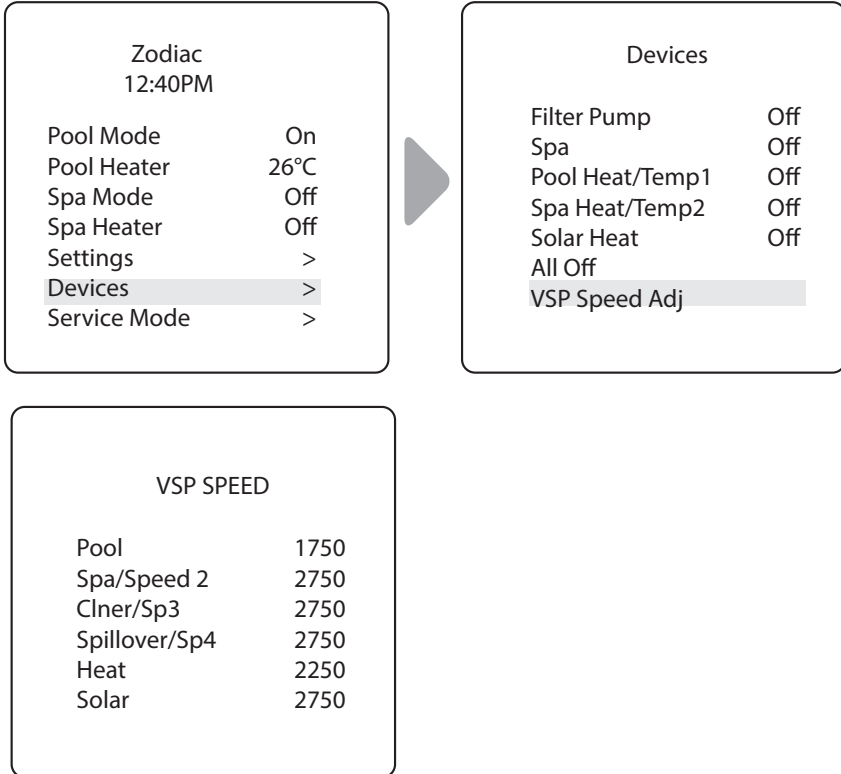


3.10 Adjust Variable Speed Pump (VSP)

MAIN > DEVICES> VSP SPEED ADJ

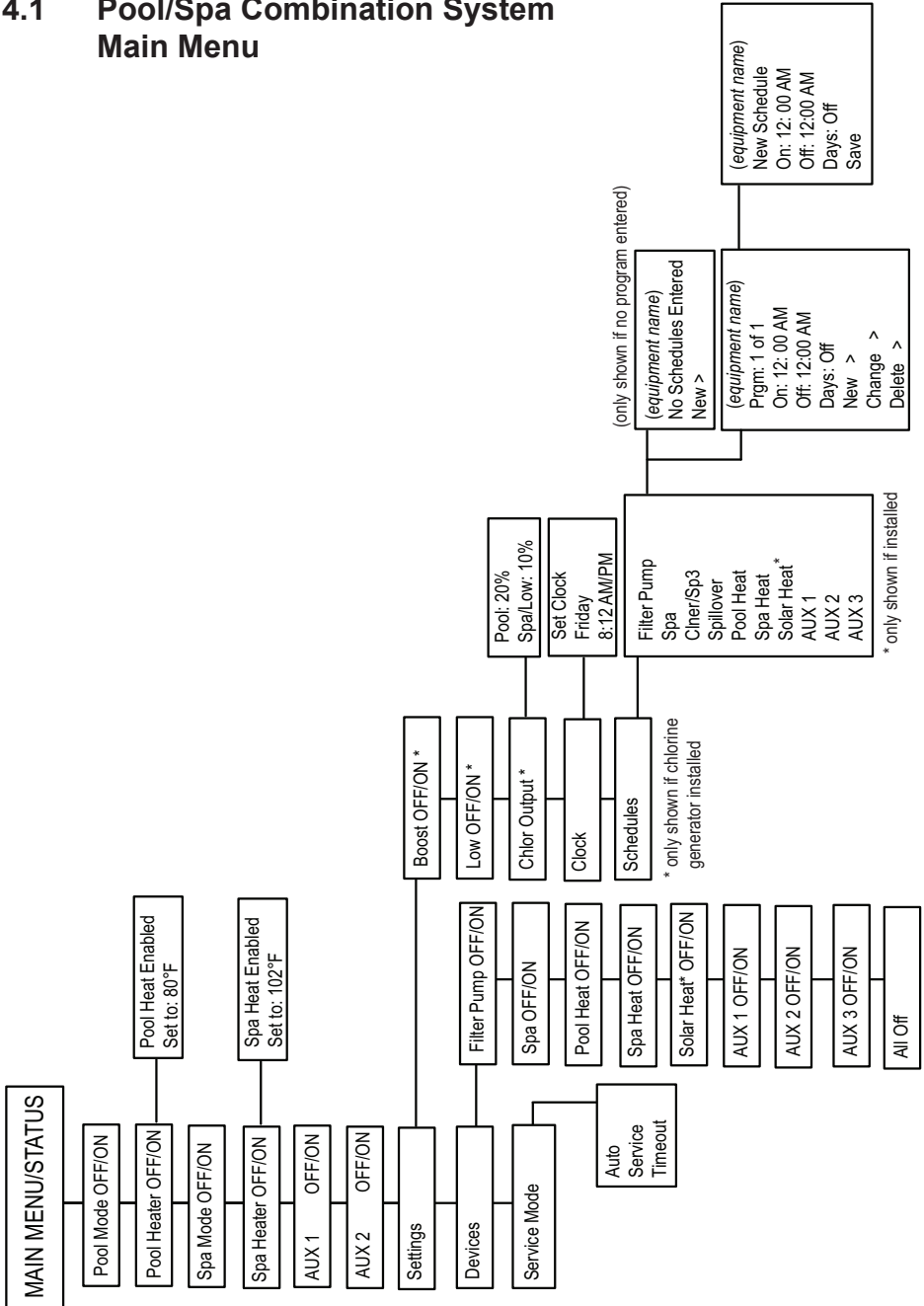
Adjust the speed of water flow from the VSP through specific equipment.

NOTE: You will only see this option if a compatible variable speed pump is installed.

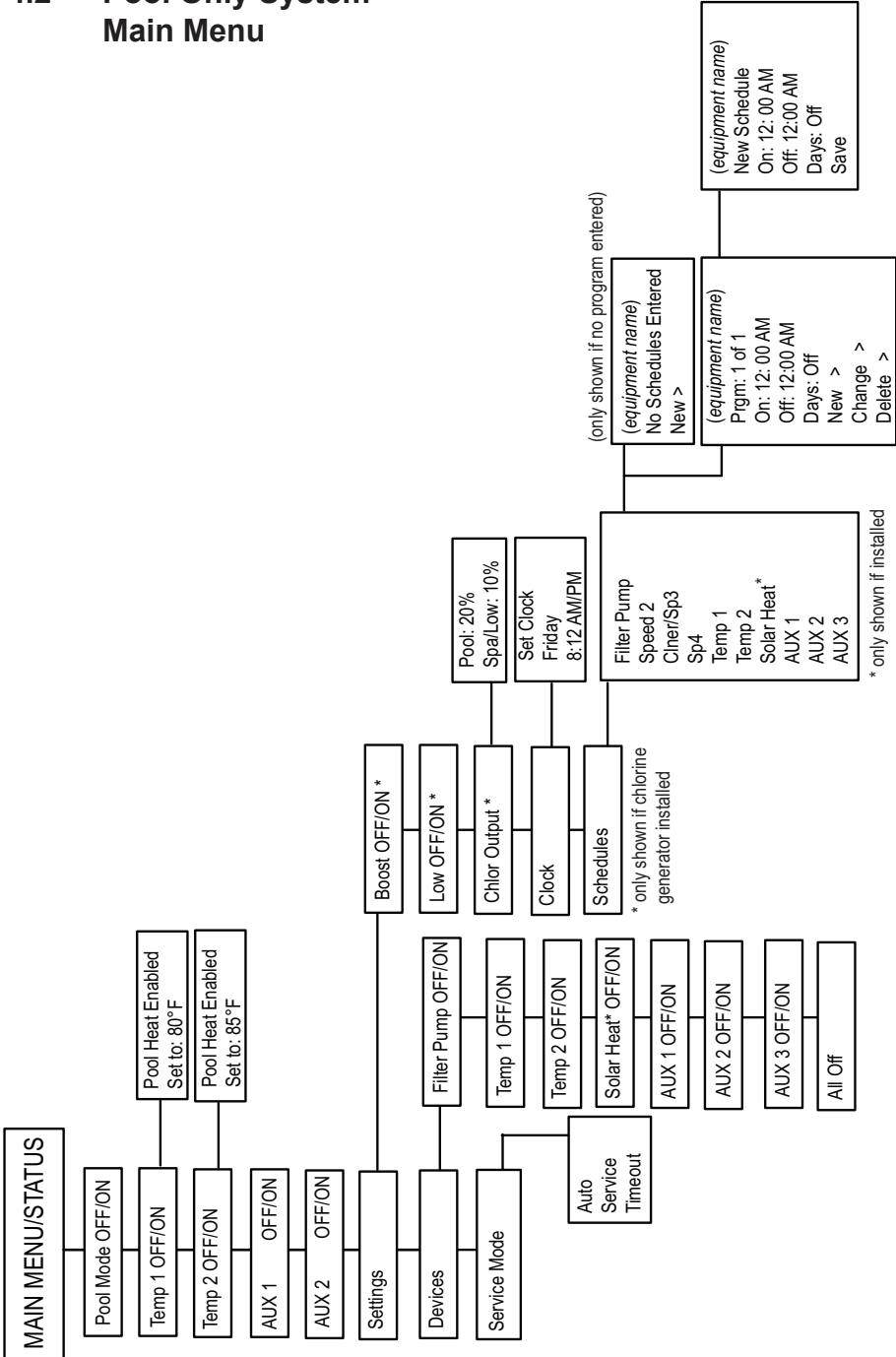


Section 4. Menu Flow Diagrams

4.1 Pool/Spa Combination System Main Menu



4.2 Pool Only System Main Menu



* only shown if installed

Section 5. Glossaries

5.1 Glossary of Safety Delays and Lockouts

Lockouts

Any device can be locked out. This will prevent the locked out device from being turned on manually. However, the device will turn on/off when it is being controlled by a schedule.

Pool/Spa Switching Filter Pump Delay

The filter pump turns off while valves rotate between pool and spa to prevent damage to the pool equipment. The valves take 35 seconds to rotate between pool and spa; the filter pump will activate as soon as the valves have finished turning.

Heater Cool Down Delay

When the system is heating (water is circulating to the spa) and the Spa button is pressed, the system will remain in Spa Mode for five (5) minutes, and will continue to circulate the water. This delay allows water to cool the heater down by circulating water through it, preventing equipment damage. The five (5) minute delay starts counting down when the heater goes off. If the heater has been off for five (5) minutes or more, prior to turning off the Spa, there will not be a delay.

Heater Start-up

The heater will only come on if the water is circulating (for example, the filter pump is on and has been circulating for 15 seconds) to the corresponding body of water (for example, spa for spa heater) and the actual water temperature is below the temperature you set with Temp Set in the Menu. If these conditions are not met, the heater will be enabled (ready to go), but will not fire.

Heater “Short Cycling” Prevention

When the heater is activated and the desired temperature is reached, heater will turn off and remain off for three (3) minutes, even if the temperature falls below the desired temperature. This feature prevents heater short cycling (in other words, the heater turning off and on in rapid succession).

Cleaner Lockout

The pool cleaner will only activate if the system is in pool mode and water is circulating. The pool cleaner requires that water is circulating to the pool in order for it to operate. Return to pool mode to activate the cleaner.

Spillover Lockout

The spillover will only activate if the system is in pool mode and water is circulating. The spillover requires that water is circulating to the pool in order for it to operate. Return to pool mode to activate the waterfall. Also, if the pool cleaner is on, it will turn off during spillover operation.

Spillover

The spillover is disabled while the spa is on. A message is displayed when spillover is turned on while in spa mode (water is circulating to spa). The spillover requires that water circulation is to pool in order to operate. The spillover will activate when the system switches back to pool mode.

Enabled

When activated allows the function to work.

Disabled

When activated does not allow the function to work.

5.2 Glossary of Messages

CLEANER CANNOT BE TURNED ON WHILE SPA IS ON

This message is displayed if the pool cleaner is activated when in spa mode and water is circulating to the spa. The pool cleaner requires that water be circulating to the pool in order for it to operate. Return to pool mode to activate the cleaner.

CLEANER CANNOT BE TURNED ON WHILE SPILLOVER IS ON

The return valve has been rotated to the spa position to give the spa spillover effect.

FREEZE PROTECT

This message indicates that freezing conditions have been detected by the freeze protection sensor, and that equipment assigned to freeze protection are active (for example, the filter pump). See *Freeze Protection Menu* for more information.

NOTE: The filter pump is always protected; spa and auxiliary circuits can be assigned to freeze protection. If a freeze protected Auxiliary is turned off during freeze protection, a message will be displayed indicating that item is off but will turn on in X amount of minutes. The minutes will vary depending on how long freeze mode has been active from one (1) to 15 minutes.

SENSOR OPEN

This error message indicates that the sensor is not installed properly or is malfunctioning. Call your pool service person to resolve this problem.

NOTE: If the message reads WATER TEMP OPEN, the heater will not fire. If message AIR TEMP OPEN is displayed, freeze protection will not operate correctly.

POOL HEATER ENABLED

This message indicates that the pool heater is ready to use but is not actually firing. The filter pump must be on, and the water temperature must be below the setting for the heater to fire.

PUMP WILL REMAIN ON WHILE SPILLOVER IS ON

This message is displayed when you attempt to turn off the filter pump while a spa spillover is on. Since the filter pump is necessary for spillover operation, the pump will remain on until the spillover is turned off.

PUMP WILL TURN OFF AFTER COOL DOWN CYCLE

This message indicates that the filter pump is circulating water to cool down the heater. The filter pump will continue to run for five minutes to protect the heater from damage, whenever the heater has fired and has been off for less than five (5) minutes.

PUMP WILL TURN ON AFTER DELAY

This message is displayed during pool/spa switching. The AquaLink TRI waits 35 seconds while the valves turn from pool position to spa position (or vice-versa) before activating the filter pump.

SERVICE MODE

Service mode is used by the pool service person to aid them in servicing the pool.

SENSOR SHORT

This error message indicates that the sensor is not installed properly or is malfunctioning. Call your pool service person to resolve this problem.

NOTE: If the message reads WATER TEMP SHORT, the heater will not fire. If the message AIR TEMP SHORT is displayed, freeze protection will not operate correctly.

SPA WILL TURN OFF AFTER COOL DOWN CYCLE

When the system is in Spa Mode (water is circulating to the spa) and the Spa button is pressed to switch water circulation to the pool, the system will not switch to Pool Mode for five (5) minutes, and will continue to circulate the water (if the heater has fired and has been off for less than five minutes). This delay allows water to cool the heater down by circulating water through it, preventing equipment damage.

TIMEOUT MODE

TIME OUT mode is used by the pool service person to aid them in servicing the pool. The AquaLink TRI user interface will not be functional for three (3) hours, or until the switch at the Controller is turned back to AUTO mode. The time remaining for TIME OUT mode is displayed on the user interface screen.

SPILLOVER DISABLED WHILE SPA IS ON

This message is displayed when the spa spillover is pressed while in spa mode (water circulation is to spa). The spillover requires that water circulation is to pool in order to operate. The spillover will activate when the system switches back to pool mode.

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