# Supreme, Ultimate Storm & Wave Series Home Owner Packet

*60 HZ United States Series*
*50 HZ European Series*

# TABLE OF CONTENTS

# IMPORTANT HOT TUB OWNER INFORMATION

Sunbelt Spas utilizes the latest in technology to provide you with a hot tub of the highest quality that is easy to maintain. It is imperative that you read all of the information provided in your homeowner's manual and maintains your hot tub utilizing the correct chemicals and maintenance schedule. The spa surface is made of Lucite Acrylic and must be protected from direct sunlight by use of the spa cover provided. Exposure of the spa surface and fittings to direct sunlight or ultraviolet rays may cause damage to the spa's surface. Exposure will void warranty to the spa surface and to the fittings. Sunbelt Spas Installation Requirements must be met by the homeowner including slab and electrical requirements. Any deviation from the Installation Requirements will result in void of warranty.

Sunbelt Spas strives to provide the best possible hot tub for your use therefore modifications and enhancements to the hot tub, mechanics, equipment, and structure may be made which effect the specifications, illustrations, and/or instructions within this manual.

Sunbelt Spas Hot Tubs meet all requirements and regulations of ETL laboratories. Sunbelt Spas ETL listing is 9901934 and conforms with UL STD 1563 of Electric Hot Tubs, Spas And Associated Equipment. Further information may be requested from Sunbelt Spas, 8500 Hwy 6 South Houston Texas 77083.

# IMPORTANT SAFETY INFORMATION

When installing and using this electrical equipment, basic safety precautions should be followed. Including the following:

ALWAYS READ AND FOLLOW ALL DIRECTIONS –

WARNING – To reduce risk of injury, do not permit children to use this product unless they are closely supervised at all times.
DANGER – Risk of accidental drowning. Take extreme caution to prevent unauthorized access to the spa by children. To avoid accidents ensure that children cannot use the spa unless supervised at all times.
DANGER – Risk of injury. The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate the spa if the suctions are broken or missing.
DANGER – Risk of electrical shock. Install at least 5 feet (1.5m) from all metal surfaces. As an alternative, a spa may be installed within 5 ft. of a metal surface if each metal surface is permanently connected by a minimum of No. 8 AWG (8.4 mm2) solid copper conductor to the terminal box that is provided for this purpose.
DANGER – Risk of electrical shock. Do not permit any electrical appliance, such as light, telephone, radio, or television, within 5 feet (1.5 m) of a spa.
WARNING – To reduce the risk of injury –

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

WARNING – Risk of suffocation. On spas with a gas heater the heater must be placed outside unless proper ventilation can be provided for an indoor installation.
SAVE THESE INSTRUCTIONS

# INSTALLATION REQUIREMENTS

Sunbelt Spas manufacturing process uses high quality components that add significant weight to the spa structure. The combination of the spa weight and the weight of the water filling the spa make a proper foundation necessary. Improper spa foundation can result in shifting of the spa structure or shell. Damages to the spa shell, structure, equipment and/or skirting due to improper foundation will not be covered under warranty.

**Proper Spa Foundation** – Sunbelt Spas recommendation for proper spa foundation is a structure that uniformly supports the weight of the hot tub and the water filling the hot tubs. The surface of the foundation should be smooth, flat and level. We recommend a poured and steel re-bar reinforced concrete slab, a minimum of 4 inches thick, for all hot tubs sized eight feet by eight feet and under. Wood decking must be a pier and beam style that properly supports the spa's weight.

Sunbelt Spas are produced for use in outdoors. We recommend you do not recess a Sunbelt Spas hot tub in a hole. Recessing the unit into a hole can cause potential problems with access and water retention within the hole itself. Every side of the hot tub is removable and must be accessible for service. Any and all cost of spa removal and replacement, landscaping, decking, fencing, and/or structure removal, alteration and/or replacement or any other costs of providing access to the spa will be the responsibility of the purchaser.

# ELECTRICAL REQUIREMENTS

## *Electrical Requirements 60 HZ United States Series-*

*Supreme, Ultimate, Storm, & Wave Series Sunbelt Spas must to be wired as 240V hard wire system.*

For 240V Wiring

Minimum Wire Size –
Four Wire – Two (2) #6 thhn HOT, One (1) #8 thhn NEUTRAL, One (1) #9 thhn GROUND

Breaker Required –
60 amp Double Pole GFCI Protected Breaker
**This Breaker Must Be Dedicated For The Spa Use ONLY**

For distances over 75' from the breaker to the spa a larger size wire may be required. A licensed electrician must evaluate the wiring. When running the wire remember to leave 10' of spare wire at the location of the tub in order to be prepared for tub positioning.

**IMPORTANT**
**The National Electrical Code states that a service disconnect breaker box must be located at least five feet away from the spa and should be conveniently located neat the equipment bay. If it is not in plain sight, keep the disconnect padlocked when in the off position.**
Effective January 1994 GFCI are required for spa installations.

## Electrical Requirement For 50 HZ European Series –

As electrical regulations vary within the EU and even within certain countries the installer is required to contact Balboa Equipment directly in order to establish wiring requirements that meet the standard of their country and the needs of the hot tub. A licensed electrician should install all electrical lines. Balboa Technician Line – 714-384-0384

# HOT TUB START UP INSTRUCTIONS

Before applying voltage to the System, it is very important that you understand the sequence of events that occur when power is applied so that the pumps can be primed efficiently and faults created by no water flow can be prevented.

Please review the following procedures and power-up events before applying voltage to the System:

1. Check the voltage at the main power panel to be sure that you have the correct voltage for the System being used. Also, be sure that the voltage for the voltage is within + or – 10% of the mean voltage. For 120V it should be between 108V and 132V. For 240V it should be between 216V and 264V.

2. Test and reset the GFCI. If it does not operate properly, do not apply voltage to the System until the problem has been corrected.

3. Fill the spa to its correct operating level. Be sure to open all valves in the plumbing system before filling to allow as much air as possible to escape from the plumbing and the heater during the filling process.

4. Turn the power on at the main power panel. Depending on which topside panel the system is configured for; the displays will go through specific sequences. During these sequences, you will need to prime the pumps as described in the following:

The following will occur:

Display will show a series of numbers immediately following power-up. The first three numbers in combination are called the software id. The three numbers in order are the Software Manufacturer ID, the Software Product Type ID, and the Software Version ID. Following the Software ID will be either a 12 or 24, indicating the heater wattage the software is configured for. There are differences in freeze protection between units that display a Software Version ID of 00 (or don't display a Software ID at all), versus units that display a Software Version ID of 01 or greater.

Display will show "Pr" or Priming Mode, indicating that the system is in a pump-priming mode. During this 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 all jet buttons. This mode will automatically lasts for about 4 minutes or you can manually exit the priming mode after the pump(s) have primed. Regardless of whether the priming mode is automatically terminated or you manually exit the priming mode, the

system will automatically return to normal heating and filtering mode at the end of the priming mode.

As soon as “Pr” is indicated on the topside panel, push all jet buttons to start the pumps. On models with a combined Jet button, push it until all pumps are on high speed. All pumps need to be running in the high-speed mode 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 the power off at the main power panel and repeat the process of venting the air from the pumps. After venting air from the pumps a second time, turn the power back on at the main power panel. This will initiate a new pump-priming mode. Sometimes momentarily turning the pump off and on will help it prime. Do not do this more than 5 times.

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

1. After pump priming, push all Jet buttons to turn off pumps.
2. Next, manually exit the priming mode by pushing either the “Warm” or “Cool” button (the “Temp” button on smaller panels). Note that if you do not manually exit the priming mode as described above the priming mode will be automatically terminated after 4 minutes. Be sure that the pumps have been primed by this time.
3. After you manually exited the priming mode or the system has automatically exited the priming mode, the topside will momentarily display the set temperature and then dashes.
    a. NOTE the display is not showing the temperature yet. This is because the system requires two minutes of water flowing through the heater to determine the water temperature.
4. After two minutes of water flowing through the heater the temperature will be displayed. Push the “Warm” or “Temp” button to adjust the temperature in the spa is less than the set temperature, the heat indicator will turn on signifying that the heater has been energized.
5. When the system is in Standard operational mode it will automatically heat the spa and maintain it at the set temperature. All user buttons will be functional. If a higher temperature is desired, simply push the “Warm” or “Temp” button until the desired temperature is displayed. The maximum temperature setting is 104F / 40C. Other energy saving operation modes are selectable by pushing “Mode”.
6. After the system has powered up and the pumps have been primed make a final voltage check at the system terminal block.
    a. VOLTAGE CHECK
        i. Activate the low speed of the pump.
        ii. Adjust the temperature to turn on the heater.
        iii. Activate any other equipment that does not turn the heater off.

iv. Check voltage – Voltage for a 120 system should be 108-132 between line and neutral.
v. If the voltage is not within tolerance while the system is operating as described above turn off the power at the main power panel and correct the problem before continuing to operate the system.

# CONTROL PANEL INSTRUCTIONS

## *Only For Storm Series Spa Models – Hurricane & Tornado*

VS501S Control

***Initial Start Up*** –
Your VS501S control has been specifically designed so that by simply connecting the spa to its properly grounded source, the control will automatically heat the water to the set temperature. When your spa is first actuated, it will go into Priming mode, indicated by "Pr". The priming mode will last for less than 5 minutes (press "Warm" or "Cool" to skip Priming Mode) and then the spa will begin to heat the spa and maintain the water temperature in the Standard Mode.

***Temperature Adjustment*** – (26C – 40C/80F – 104F)
The start-up temperature is set at 100F/37C. The last measured temperature is constantly displayed on the LCD. NOTE – The last measured temperature displayed is only accurate when the pump has been running for 2 minutes.
Temperature adjustment is controlled by pushing the "Warm" or "Cool" button on the pad. After three seconds, the LCD will automatically display the last measured spa temperature.

**Jets –**
Touch the "Jets" button once to activate the low speed of the pump and again for the high speed. Press the "Jets" button again to turn the pump off. If left running, the low speed of the pump will automatically turn off after 4 hours, and the high speed will automatically turn off after 15 minutes. The low speed of the pump runs when the blower is on. It may also activate for at least 2 minutes every 30 minutes to detect the spa temperature and then to heat to the set temperature if needed, depending upon mode. When the low speed turns on automatically, it cannot be deactivated from the panel; however, the high speed may be started.

***Light –***
Press the "Light" button to turn the light on and off. If left on, the light automatically turns off after 4 hours.

**Mode-**
Mode is changed by pressing the "Warm" or "Cool" button, then pressing the "Mode" button.

Standard Mode – is programmed to maintain the desired temperature. Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes. “Std” will be displayed momentarily when you switch into Standard Mode.
Economy Mode – heats the spas to the set temperature only during filter cycles. “Ecn” will display solid when temperature is not current, and will alternate with temperature when temperature is current.
Sleep Mode – heats the spa to within 20F/10C of the set temperature only during filter cycles. “SLP” will display solid when temperature is not current, and will alternate with temperature when temperature is current.

**Preset Filter Cycles**
The first filter cycle begins 6 minutes after the spa is energized. The second filter cycle begins 12 hours later. Filter duration is programmable for 2,4,6,8 hours or for continuous filtration (indicated by “F1LC”). The default filter time is 2 hours. To program, press “Warm” or “Cool” then “Jets”. Press “Warm” or “Cool” to adjust. Press “Jets” to exit programming.
The low speed of the pump runs during filtration and the ozone generation (if installed) will be enabled.

**Freeze Protection**
If the temperature sensor detects 6.7C/44F at the heater, then the pumps automatically activate to provide freeze protection. The equipment stays on until 4 minutes after the sensor detects the spa temperature has risen to 45F/7.2C or higher. In colder climates, an optional additional freeze sensor may be added to protect against freeze conditions. See your dealer for details. Aux freeze sensor protection acts similarly except with the temperature thresholds determined by the switch and without a 4-minute delay in turnoff. See your dealer for details.

**WARNING – SHOCK HAZARD**
## DO NOT ATTEMPT SERVICE OF THIS CONTROL!
No user serviceable parts. Do not attempt service of this control. Contact your dealer or service organization for assistance. Follow all owners’ manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.

## ***For all Supreme, Ultimate & Wave Series Spas –***
## ***For Storm Series Spas Models – Monsoon & Typhoon –***

EL/GL Series Control With ML700 Panel

Initial Start Up

When your spa is first actuated, it will go into Priming mode (after displaying some configuration information). Please see Page 7 Hot Tub Start Up Instructions for complete instructions on Power-up and Pump Priming. The Priming mode will last for up to 4 minutes and then the spa will begin to heat the spa and maintain the water temperature in the Standard mode. You can exit Priming mode early by pressing “Warm” or “Cool”.

For the legend icon see your EL/GL Series Control card. Become familiar with these icons in order to work with the settings below.

Setting The Time

Once the spa has been properly connected the first time, notice the “Time” icon appearing on the screen.
Press the “Time” icon then “Star” icon.
Select the hour by pressing “Up” or “Down” icons. Each press will change the time by one hour.
Press “Star” icon to enter.
Select minutes by pressing “Up” or “Down” icons. Each press will change the time by one minute.
Pres “Star” icon to exit the time setting procedure and enter the optional filter cycle programming.
Press “Time” icon to exit programming.

Optional Filter Cycle Programming

You are not required to set filter cycles’ however, it is an option available to you. To change the filter cycle settings:
Press “Time” “Mode/Prog” “Mode/Prog” “Mode/Prog” within 3 seconds. You will see the “Program”, “Filter 1” and “Start Time” icons appear on the display.
Press “Warm” or “Cool” to choose the filter start time hour. Enter the hour by pressing “Mode/Prog”. Press “Warm” or “Cool” to choose the filter start time minutes. Each press changes the start time by 5 minutes.
Enter the minutes by pressing “Mode/Prog”.

Press “Mode/Prog” to see the “Program”, “Fitler 1” and “End Time” icons. Adjust the time as done above.
Press “Mode/Prog” to see the “Program”, “Fitler 2” and “Start Time” icons. Proceed as above.
Press “Mode/Prog” to see “Program”, “Fitler 2” and “End Time” icons. Adjust the time as done above.
Pressing “Mode/Prog” will enter the new fitler cycle times into the system and display the current water temperature.
*Pressing “Time” at any time during this programming sequence will save the valves entered up to that point and exit programming.*
If you would like to select continuous filtration, set the filter 1 strat and end times to be the exact same time.

Temp Set (80 F – 104 F / 26 C – 40 C)
The start up temperature is set at 100F/37.5C. The last measured temperature is constantly displayed on the LCD.
Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes.

Warm/Cool
Press the “Warm” or “Cool” button once to display the set temperature. Each time either button is pressed again, the set temperature will increase or decrease depending on which button is pressed. After three seconds, the LCD will automatically display the last measured spa temperature.

Time
When time hasn’t been programmed, the “Time” icon flashes. To set the time, press “Time” then “Mode/Prog”. Use the “Warm” and “Cool” buttons to adjust time. See page 10 for more details.

Mode/Prog
This button is used to switch between standard, economy, and sleep modes. Press “Mode/Prog” to enter mode programming, press “Cool” to cycle through to the desired mode (LCD flashes until confirmed), then press “Mode/Prog” to confirm selection.
STANDARD MODE maintains the desired temperature. Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes. The “Standard” icon will display until the mode is changed.
ECONOMY MODE heats the spa to the set temperature only during filter cycles. The “Economy” icon will display until mode is changed.
STANDARD IN ECONOMY MODE which operate the same as Standard Mode, then reverts to Economy Mode automatically after 1 hour. During this time, a press of the “Mode/Prog” button will revert to Economy Mode immediately.
SLEEP MODE heats the spa to within 20F(11C) of the set temperature only during filter cycles. The “Sleep” icon will display until the mode is changed.

Standby Mode
Pressing “Warm” or “Cool” then “Jets 2” will turn off all spa functions temporarily. This is helpful when changing a filter. Press any button to exit Standby mode.

Jets 1
Press the “Jets 1” button once to turn pump 1 on or off, and to shift between low and high speeds. If left running, the low speed turns off after 2 hours and the high speed turns off after 15 minutes.
On non-circ systems, the low speed of pump 1 runs when the blower or any other pump is on. It may also activate for at least 2 minutes every 30 minutes to detect the spa temperature (polling) and then to heat to the set temperature if needed, depending upon mode. When the low speed turns on automatically, it cannot be deactivated from the panel; however, the high speed may be started.

Jets 2
Press the “Jets 2” button once to turn pump 2 on or off, and to shift between low and high speeds if it is a two-speed pump. If left running, the pump will turn off after 15 minutes.

Blower
2 Speed Operation – Med/Hi/Off
If left on the blower will automatically turn off after 15 minutes.

Invert
Press the “Warm” or “Cool” button, followed by the “Blower” button to change the numbers in the display to read from inside the spa/upside down.

Light
Press the “Light” button to turn othe spa light on and off and to start and stop LED lighting options if installed.
If any light is left on, it will automatically turn off after 4 hours.

Preset Filter Cycles
On all systems, the pump and the ozone generator, if installed, will run during filtration. At the start of each filter cycle, the blower will run on highest speed for 30 seconds to clean out the air channels. The lowest speed of pump 2 and pump 3 will run for 5 minutes.

There are two filter cycles per day. The start/end times of each cycle are programmable. To program, set time as instructed on page 10, then press “Mode/Prog” to advance to the next setting (or to exit after the last setting). The default filter cycles are as follows:
The first filter cycle is automatically activated at 8:00 am and operates the pump until 10:00 am. The filter 1 indicator icon will light when filter 1 is running.
The second filter cycle is automatically activated at 8:00 pm and operates the pump until 10:00 pm. The filter 2 indicator will light when filter 2 is running.

Clean Up Cycle (optional)

When the pump or blower is turned on by a button press, a clean-up cycle begins 30 minutes after the pump or blower is turned off or times out. The pump and the ozone generator will run for one hour.

Ozone (optional)
On most systems the ozone generator runs during filter cycles (except when pump 1 is operating on high speed in a non-circ system) and during clean up cycles.

Freeze Protection
If the temperature sensor detect a drop to 44F (6.7C) within the heater, then the pump automatically activates to provide freeze protection. The equipment stays on until 4 minutes after the sensors detect that the spa temperature has risen to 45F (7.2C) or higher. In colder climates, an optional additional freeze sensor protection acts similarly except with the temperature thresholds determined by the switch and without a 4 minute delay of turnoff.

Locking the Panel
Press “Warm” or “Cool” then “Time” “Jets 1” and “Warm” within 3 seconds to activate the lock. The TL indicator light will light when the set temperature is locked.
To unlock the set temperature, press “Warm” or “Cool” then “Time” “Jets 1” and “Cool”.

# GETTING TO KNOW YOUR SPA COMPONENTS

Your Sunbelt Spa is made with the highest quality components in order to provide you with the ultimate hot tub. It is important to know the components and operation procedures for your components. NOTE- Some components are optional and will not be located in your spa.

*VS501S Control Panel –*

See Page 7 For Complete Spa Panel Operations and button details. The sticker located on the bottom side of the pack contains essential information for service technicians.

*VS501S Control Pack –*

The VS501S Control Pack Controls operations of the complete spa. The sticker located on the side of the pack contains essential information for service technicians. The VS501S information on this sticker will help to ensure you receive the correct replacement and/or parts for your spa. Only a Sunbelt Spas authorized technician should attempt any repairs to the VS501S Control Pack.

*EL/GL Series Control Panel –*

See Page 11 For Complete Spa Panel Operations and button details. The sticker located on the bottom side of the pack contains the essential information for service technicians.

*EL/GL Series Control Pack –*

The EL/GL Control Pack controls operations of the complete spa. The sticker located on the side of the pack contains essential information for service technicians. The EL/GL information on this sticker will help to ensure you receive the correct replacement and/or parts for your spa. Only a Sunbelt Spas authorized technician should attempt any repairs to the EL/GL Control Pack.

*Spa Heater –*

 (silver tube only)

The spa heater, long silver tube, is located under the control pack is responsible for heating the water to a desired temperature. The heater is operated through the spa control pack and temperatures can be changed using your control panel instructions.

*Water Pump –*

The water pump pictured here pushes the water from the spa through your jets. Pumps operate through the spa pack ( ) button and have two speeds.

*Water Jets –*

Stress Relief Adjustable Cluster Storm Jet
Mini Storm Roto Jet
Poly Storm Roto Jet
Poly Storm II Pulsator Jet
Power Storm Roto Jet
Power Storm Massage Jet
Jumbo Storm Roto Jet
Aqua Fan Massage Jet

The jets pictured above can be found on a Sunbelt Spa. Water comes through the jet when the jet is turned clockwise or into the on position. Water will be blocked by turning the jet off by twisting it counterclockwise. When the jet face needs to be removed the jet can be turned further counterclockwise and the jet face will pop out of the jet body. When replacing a jet face look for the small notch in the groove found on the back of the jet. This notch should be positioned at the identical recess in the jet body when placing the jet. Turning the jet clockwise into the body will then correctly place the jet into the spa.

*Shut Off Valve/Slice Valve –*

The shut off valve is a slice valve that stops water flow from the pump to the attached pipes. In the up position the slice valve allows for complete water flow and spa operation. In the down position the slice valve closes and the water is stopped from flowing. These

slice valves allow a spa technician to remove the pump and replace the pump without having to empty all of the spa water.

*Air Pump/Blower–*

The blower, air pump, pushes air through the lines and adds air to the air injectors for the "Bubble" effects in your spa. The air blower is operated through the spa pack ( ) button and has one speed.

*Air Control Knob –*

The air control knob is a valve that allows the passage of air into the jets. This knob operates by turning the knob to the on position, clockwise, and the off position, counterclockwise. The air control knob will affect the strength of the jets and can be changed to personal preference.

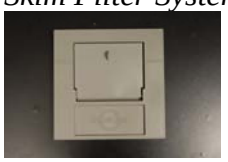
*Air Injector –*

The air injector is where the air blower pushes air into the spa creating the "Bubble" effect throughout the spa. These air injectors can be infused with various aromas if the aromatherapy option is placed on the spa.

*Aromatherapy Canister –*

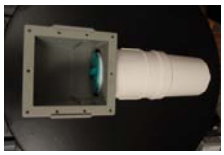
The aromatherapy canister holds a sachet of aromatherapy beads. There are multiple scents available for the aromatherapy beads and your dealer can provide them. This canister is in line with the air blower and each time the blower is turned on the aroma is infused into the air injectors.

*Skim Filter System –*



The skim filter is the most effective filtration system available in a portable spa. The skim filter works by the water flowing over highly efficient filters when the spa control pack operates the filter cycle.

To remove the filters simply slide the filter cover up and off of the filter.



Remove the filter skim basket that is designed to catch larger objects prior to them reaching the filter.

Reach in and remove the filter. Note – Some filters have screw mechanisms and need to be spun counterclockwise to remove the filter. Many filters are stacked to increase the filtration of the spa so check to make sure all filters are removed. When placing the filters back make sure to spin the filters into place then replace the filter skim basket and slide on the filter cover.

*Ozonator –*


The Ozonator, long black tube or white rectangular box pictured above, produces O3 molecules that are released into the water. These molecules enter the spa water through the ozone injector jet and help to kill bacteria and most unicellular microorganisms. This option helps you maintain your Sunbelt Spa and utilize fewer chemicals. The ozonator will operate each time the spa filtration functions are in service.

*Ozone Injector Jet –*

The ozone injection jet is the vessel in which the O3 molecules are placed into the water and release tiny O3 bubbles during operation.

*Waterfall –*

The waterfall option of a Sunbelt Spa creates a visual wall of water while providing auditory enjoyment. A cascading wall of water emits from the horizontal slit in the

waterfall. The waterfall function can be operated by the on/off valve while the pump button is in the on position. See picture below.

*On /Off Valve/Waterfall Valve* -

The on/off valve or waterfall valve, 1" valve above, operates the waterfall option of the Sunbelt Spa. Turning the knob clockwise will activate the waterfall and turning the knob counterclockwise will eliminate the waterfall action. Remember the waterfall valve works throughout the range allowed by the knob so it is possible to operate the waterfall at a custom level of power.

*Footdome –*

The footdome of Sunbelt Spas is an available option on some Sunbelt Spas. The jets located in the footdome operate by producing a volcanic effect in the footwell of the spa. The jets can be turned to increase and decrease the flow of water to the footdome and the surrounding seats by using the Diverter Valve. See picture below.

*Diverter Valve –*

The diverter valve operates the footdome and seating areas in some spas. The knob operates by increasing the water flow to the footdome and decreasing the flow to the seating area or decreasing the flow to the footdome and increasing the flow to the seating area.

*Drain Plug –*

*Drain Plug Water Hose Adapter –*

The drain plug, pictured above, allow you to drain your hot tub of water. It works by twisting the Drain Plug Water Hose Adapter onto your water hose. Screw the Drain Plug Hose Adapter into the Drain Plug and the water will flow out of the water hose.

# SPA CARE GUIDE

*Regular Schedule Maintenance*
The following section is a listing of the regular scheduled maintenance items you should complete to keep your spa working well.

Testing Your Water
Minimum 2-3 Times A Week

Test the spa water by placing a test strip into the water according to manufactures instructions.

Read the results and increase and decrease your chemicals according to the findings on your test strip.

Filtration Cleaning
2 Week Intervals

Turn off your breaker so the filter cycle will not activate while cleaning.
The filter is located inside the skimmer. The skimmer faceplate will slide up and off. The basket inside should be pulled out, any debris removed and rinsed off. The filter cartridge should be removed by turning the filter cartridge in a counter-clockwise direction. It can the be pulled out of the skimmer. *Note* Some filters are side by side models and some are stacked on top of one another so make sure you get all the filters out.

Using a regular garden hose with a spray nozzle, rinse filter until clean. Every few months it may be necessary to soak the filter in a cleaning solution. Make sure it is a filter cleaner designed for hot tub use as soaps often leave residue that creates bubbles and problems with your spa components. After soaking in a filter cleaner spray the filters making sure to remove all the solution before replacing into the filter.

Replace the filter. Insert the filter into the skimmer and turn clockwise until snug. Slide the basket back into place. Slide the faceplate onto the skimmer and be sure the skimmer door is in place.

Turn the breaker back on.

Cleaning The Hot Tub Surface
As Needed

The surface of your spa is Lucite Cast Acrylic. This is a hard, non-porous surface that prevents dirt from accumulating and resists stains.

For normal care – Use a soft cloth or sponge with soap and water making sure that the soap is not introduced into the spa water. Rinse well and dry with a soft, clean cloth. If using a household cleaner make sure it is recommended by the manufacturer.

For dust and/or dry dirt – Use a soft clean damp cloth and wipe.

For grease, oil, paint and ink stains – Use isopropyl (rubbing) alcohol. Rinse well with a dry soft clean cloth.

For small scratches – Buff lightly with a clean cloth and use either an automotive polishing liquid or toothpaste containing a fine polishing ingredient.

For deep scratches – sand the surface lightly with 600 grit “wet or dry” paper and buff with a fine polishing compound.

Make sure never to allow your spa to come into contact with – abrasive cleaners, nail polish, nail polish remover, wintergreen oil, dry cleaning solutions, lacquer thinners, gasoline, pine oil and similar items.

Maintaining The Hot Tub Cabinet
As Needed

Regular surface cleaning with a damp cloth will be adequate for most installations and keep the EON CPI cabinet looking its best.

Stubborn surface stains and accumulation can be removed using a mild soap or detergent with a soft clean cloth. Household stains, food, body oils and airborne contaminants will be removed using the mild soap as well.

Make sure not to use any kind of solvent on EON CPI Cabinets. Clean any chemical spills immediately including, suntan lotion, bug spray and household chemicals. Do not attempt to clean the surface with abrasive, oil-based cleaners, furniture polish or wax, or any prepared cleaning solution other than soap or detergent and water.

EON can be scratched but normal scratches from wear and tear will become less noticeable as EON weathers to a matte finish in the first year of outdoor use.

Minor scratches can be repaired by gently rubbing the affected area with fine steel wool or extremely fine grit (600) sandpaper then buffing with a soft cloth.

Heavier scratches can be filled using a common furniture scratch repair pencil available at most home building centers. Examples include; Pain Pal Putty Pencil, Minmax Blend and Fil Pencil.

Severe scratches or abrasions may be treated with a color matched water based outdoor wood stain.

Please practice these techniques on an Eon sample piece before attempting repairs to your finished product!

Chemical Adjustments & Use
As Needed

Easy Spa Care Guide Recommended For Sunbelt Spas-

1. Place “Spa Frog” mineral purifier in skimmer tray. (Break off the handle)
2. Set filtration system to run a total of 4 hours per day. 2 hours out of every 12 hours.
3. Test pH, Alkalinity, Chlorine levels 2 – 3 times per week (regularly) with test strips. Add pH up or down and chlorine granules accordingly. DO NOT USE BROMINE.
4. Maintain a minimum chlorine level of 0.5 – 1 ppm. A very small “pinch” of Granular Sodium Dichlor after each use works very well.
5. Add 8 oz “Metal Gon” on start-up and each time the water is changed.
6. Shock after each use or at least once a week (if spa is not used) with non-chlorine shock such as Leisure Time’s “Renew”. **Any spa shock that is at least 30% Potassium Peroxymonosulfate will work fine. REAK THE LABEL!
7. Add 1 – 2 oz of water clarifier per week
8. Remove and pressure wash cartridge filters with your garden hose every 2 weeks.
9. Replace “Spa Frog” mineral purifier every 4 months unless all minerals are gone, then replace immediately.
10. Drain spa and refill spa 3 – 4 times a year minimum.
11. Install and Ozonator if you do not already have one.
12. Rubber Duck is optional but the perfect addition to your hot tub.

*NOTE – Use only Granular Sodium DichclorO Chloringe. No need for bromine.

The following guide is a general outline of spa care and is intended for use with water testing in order to maintain the spa. The following are all chemicals and techniques recommend for use with all Sunbelt Spas.

Test Strips – Use at least two times a week to check your chemical levels. Utilize the instructions on the test strips to perform the test and read results accurately. Do not add chemicals to the spa without testing the spa first. Leaving the strips outside or storing them with other chemicals will impair the functions of the strip. Test kits from a local spa or pool supplier are often easier to understand and interpret than test strips.

Spa Defender/Stain and Scale Control – This product will remove calcium from the water. Calcium can make deposits in the jets, plumbing, and pumps. Use ½ oz per week.

Clarifier – This is usually a viscous blue liquid. This will remove oils, soap, and suntan lotions. Clarifier will stop the spa from foaming without leaving a residue, but it takes several hours to completely clear the water. Use ½ oz per week.

Metal Gone – This product will remover copper and iron from the water. Use one pint with each refill of fresh water and a maintenance schedule of 1 – 2 oz. per week.

Ozone – If the ozone generator is installed in your Sunbelt Spa it will run while the spa is on the filtration cycle. Ozone will greatly reduce the total amount of chemicals you will use over the lifetime of your spa.

PH Minus – Always test the PH first, add PH Minus to the water to lower the levels of PH if needed. Granular PH Minus is usually more effective than the liquid form. Re-test daily until the PH is within normal range. DO NOT USE MURIATIC ACID!

Spa Frog Mineral Stick – Works on eliminating bacteria and preventing algae growth while helps to neutralize ph. Unique blend of minerals to make your water softer, safer and sparkling clear. Can be used with bromine, chlorine, and ozone system.

Renew Spa Shock – Chlorine free sanitizing system keeps water clean and healthy. Add renew after use to destroy wastes left behind and eliminate bacterial contaminants.

PH Plus – Always test the PH before adding PH plus. Only add PH Plus when the PH levels are low.
Defoamer – This product contains silicone and alcohol and temporarily prevents the spa water surface from foaming. Use very sparingly and only if absolutely necessary. A few drops at a time is all that is needed. When the alcohol evaporates the accumulated silicone will cause the water to become cloudy.

Rubber Duck – Don’t forget to have this swimmer floating the days away inside your new spa.

Spa Fast Gloss – This is an excellent product to use after draining and cleaning your spa. This wax will improve the shine of the acrylic and protect it.

Aromatherapy – If your Sunbelt Spa is fitted with an aromatherapy canister that emits the aromas through the blower system, the beads can be purchased at most spa and pool suppliers. Remember to use only beads that are located inside of mesh netting to ensure they do not get into the spa components. Liquid aromatherapy is another option if you do not have the aromatherapy option on your Sunbelt Spa. Remember to use one ounce of aroma per 300 gallons of water. NEVER USE aromatherapy products intended for bath use, bath salts, bubble baths, or bath oils in your hot tub. This will cause significant problems within your spa components, filters, and water chemistry.

MOST IMPORTANTLY –

NEVER USE POOL CHEMICALS FOR YOUR SUNBELT SPA.
Pool chemicals are manufactured for large bodies of water and are highly concentrated. This will damage your acrylic surface, your spa components, and WILL VOID YOUR WARRANTY.

Draining Spa & Water Changes
Every 120 Days

It is necessary to drain your spa at least every 120 days. Do not hesitate to drain the spa more if needed or wanted. If water becomes difficult to clean, gritty due to large dirt deposits, clouded with body oils and any other situation that results in hard to maintain water chemistry change the water. Do not fill hot tub with Soft Water.

To empty the spa:
Turn off the spa at the breaker.
Remove the plug from the Drain Plug. Plug can be used by turning counter clockwise.
Attach the Drain Plug Water Hose Adapter to your garden hose. This should be done prior to attaching to the spa as it will drain immediately.
Attach the Drain Plug Water Hose Adapter to the spa.
The spa will drain. On some models there will be a small amount of water left in the bottom of the footwell of the spa and/or the bottom of a deep seat. This water can be removed by hand. This small amount of water will be diffused through the large amount of water during refill.

To fill the spa:
Disconnect the hose and Drain Plug Water Hose Adapter from the spa. Reattach the plug to the Drain Plug.
Fill the spa with your garden hose by placing it into the spa. Do not place the hose into the aromatherapy canister, it is not a fill valve. Fill the spa to the fill line located on your spa skimmer faceplate.
Turn on the breaker. Remember not to turn the spa back on until the water is at the proper level as this could result in dry firing of the pumps and heater and damage to the spa components.
Check your settings on your topside control to ensure filtration, temperature and readings are to your personal liking.

Winterization

Winterization is the process of emptying your spa of all water and turning the product off during winter/cold months. All Sunbelt Spas are designed for year round use and are intended for use throughout cold weather conditions. The spa controls will automatically start a freeze protection mode if the temperature reaches cold levels.

As it is very difficult to remove all water from tubing and plumbing lines to ensure they do not freeze and crack, Sunbelt Spas does not recommend retail consumers perform

winterization of Sunbelt Spas products. Please contact your dealer, a local spa service company or Sunbelt Spas in order to have a professional spa winterization preformed.

It is imperative that you do not just turn your spa off and leave it with water and no power.

Cover Maintenance

There are a few simple steps to ensure the longevity of your spa cover. It is a good idea to thoroughly clean your cover every 120 days. The easiest way to remember this is to do it at the same time as you do your water changes.

On a warm dry day, stand the cover on end and allow the cover to drain fully of any water.

Using warm soapy water and a clean soft cloth wipe the entire cover down.

Rinse the cover of all soap and allow to fully dry.

Treat the cover with a conditioner that includes UV protection. There are several on the market designed for spa covers. It is very important to use products intended for spa cover use. Do Not Use products such as Armor All, Turtle Wax, and petroleum-based cleaners, as they will cause the cover to dry dramatically and crack.

# TROUBLE SHOOTING

**Diagnostic Messages**
**VS501S Controls**

BLANK SCREEN
No message on display. Power has been cut off to the spa. The control panel will be disabled until power returns. Spa settings will be preserved until next power up.

--
Temperature Unknown. After the pump has been running 2 minutes, the temperature will be displayed

OHH
Overheat (Spa is deactivated)
DO NOT ENTER THE WATER. One of the sensors has detected 48C/118F at the heater. Remove the spa cover to cool the water. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call your dealer.

OHS
Overheat (Spa is deactivated)
DO NOT ENTER THE WATER. One of the sensors has detected 43C/110F at the heater. Remove the spa cover to cool the water. At 107F/42C, the spa should automatically reset. If spa does not reset, shut off the power to the spa and call your dealer.

ICE
“Ice” Potential freeze condition detected. No action required. The pump and blower will automatically activate regardless of spa status.

SnA
Spa is shut down. The sensor that plugged into the Sensor “A” jack is not working. If the problem persists, contact your dealer. (May appear temporarily in an overheat situation and disappear when the heater cools.)

Snb
Spa is shut down. The sensor that plugged into the Sensor “B” jack is not working. If the problem persists, contact your dealer. (May appear temporarily in an overheat situation and disappear when the heater cools.)

SnS
Sensors are out of balance. If alternating with spa temperature, it may just be a temporary condition. If flashing by itself, spa is shut down. If the problem persists, contact your dealer.

HFL
A significant difference between temperature sensors has been detected. This could indicate a flow problem. Check water level in spa. Refill if necessary. If the water level is ok, make sure the pumps have primed. If problem persists, contact your dealer.

LF
Persistent low flow problems. (Displays on the fifth occurrence of "HFL" message within 24 hours.) Heater is shut down, but other spa functions continue to run normally. Follow action required for "HFL" message. Heating capability of the spa will not reset automatically; you may press any button to reset.

dr
Possible inadequate water, poor flow, or air bubbles in detected in the heater. Spa is shut down for 15 minutes. Check water level in spa. Refill if necessary. If water level is ok, make sure the pumps have primed. Press any button to reset, or this message will automatically reset within 15 minutes. If problem persists, contact your dealer.

DrY
Inadequate water detected in heater. (Displays on third occurrence of "dr" message.) Spa is shut down. Follow action required for "dr" message. Spa will not automatically reset. Press any button to reset.

**Diagnostic Messages**
**EL/GL Series Control**

Blank Screen
Power has been cutoff to the spa. The control panel will be disabled until the power returns. Systems reset the time of day on each power up. Spa settings are preserved.

OHH
Overheat. The spa has shut down. On some systems an alarm may sound. One of the sensors has detected that the spa water is 110F (43.3C). DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call your dealer.

OHS
Overhear. The spa has shut down. One of the sensors has detected that the spa water is 110F (43.3C). DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call your dealer.

ICE
Ice. Potential freeze condition detected. No action required. The pumps and the blower will automatically activate regardless of spa status.

SnA
Spa Is Shut Down. The sensor that is plugged into the Sensor “A” jack is not working. If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappears when the heater cools.)

Snb
Spa Is Shut Down. The sensor that is plugged into the Sensor “B” jack is not working. If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappears when the heater cools.)

SnS
Sensors Are Out Of Balance. If this is alternating with the temperature, it may be a temporary condition. If the display shows only this message (periodically blinking), the spa is shut down. If the problem persists, contact your dealer.

HFL
A substantial difference between the temperature sensors was detected. The could indicate a flow problem. Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. If problem persists, contact your dealer.

LF
Persistent Low Flow Problems. Displays on the fifth occurrence of the HFL message within 24 hours. Heater is shut down, but other spa functions continue to run normally. Follow action required for HFL message. Heating capacity of the spa will not reset automatically; you may press any button to reset.

dr
Inadequate Water Detected In Heater. Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. Press any button to reset.

drY
Inadequate Water Detected In Heater. Displays on the third occurrence of the dr message. Spa is shut down. Follow action required for dr message. Spa will not automatically reset; you may press any button to reset.

Pr
When your spa is first actuated it will go into Priming mode. See page 7 for Hot Tub Start Up Instructions. The Priming Mode will last for up to 4 minutes and then the spa will begin to heat and maintain the water temperature in the Standard Mode.

- - F (- - C)
Temperature Unknown. After the pump has been running for 2 minutes, the temperature will be displayed.

- - -

Temperature Not Current In Economy or Sleep Mode. In Economy and Sleep mode the pump may be off for hours outside a filter. If you wish to see the current spa temperature either switch to Standard mode or turn Jets 1 on for at least 2 minutes.

Std
Standby Mode Has Been Activated By Pressing A Button Combination On User Panel. Press any button to leave Standby Mode and return to normal operation.

PHL
pH is low. Add pH increaser according to manufacturer's instruction.

PHH
pH is high. Add pH decrease according to manufacturer's instruction.

SAL
Sanitizer is low. Add sanitizer according to manufacturer's instruction.

SAH
Sanitizer is high. Remove spa cover and allow sanitizer to dissipate.

***PERODIC REMINDER MESSAGES***
***(Press the "Mode" button to reset a displayed reminder)***

| Message | Frequency | Action Required |
|---|---|---|
| rPH | 7 Days | Test and adjust pH levels. |
| rSA | 7 Days | Test and adjust Sanitizer levels. |
| rCL | 30 Days | Remove, clean and reinstall filter cartridges. |
| rt9 | 30 Days | Test and reset GFCI. |
| rdr | 90 Days | Drain and refill spa. |
| rCO | 180 Days | Clean and condition cover. |
| rtr | 180 Days | Clean and condition wood. |
| rCH | 365 Days | Install new filter. |