



780TM Series

Owner's Manual: Export

6530-607EN Rev A

HamiltonTM

Chelsee[®]

BristolTM

MontclairTM

DoverTM

Sundance[®] Spas

Attention New Spa Owner!

Congratulations on the purchase of your new Sundance® Spas 780 Series spa! The following is a list of automated functions and maintenance recommendations for your new spa. Automated functions have been listed below in an attempt to suppress any operational concerns you may have during startup and the first 24 hours of ownership! Maintenance recommendations are listed in an attempt to stress their importance in protecting your new spa. Spa operation and function are subject to change without notice.

Automated Operations

Your new hot tub is equipped with an automated “clean-up” cycle that clears all plumbing lines daily to promote maximum water sanitation. Each day at 12:00 PM (noon), each pump will activate and run for one minute. If either pump has just finished a 20 minute time out, it will not automatically activate for the clean-up cycle. **Note:** Turning off the corresponding jets pump that is running can deactivate the feature.

Maintain Healthy Spa Water

Always maintain your hot tub’s water chemistry within the following parameters:

	with ClearRay®	without ClearRay
pH	7.4-7.6	7.4-7.6
Free chlorine	no less than 1.0 ppm	3.0-4.0 ppm
Free Bromine	no less than 2.0 ppm	2.0-4.0 ppm
Total Alkalinity	100-150 ppm	100-150 ppm
Calcium Hardness	150-250 ppm	150-250 ppm

IMPORTANT: ClearRay Active Oxygen® system is factory installed. If the ClearRay Active Oxygen® system is altered or is not operating efficiently then follow the “without ClearRay®” water chemistry parameters as defined by the Pool & Hot Tub Alliance. ClearRay® Unit requires an annual bulb replacement to operate properly.



TO DECREASE RISK OF INFECTION OR DISEASE! Always maintain your spa filter as outlined below to ensure healthy spa water. Refer to page 47 for additional information.

Required Filter Maintenance

Your new hot tub is equipped with an advanced 2-stage MicroClean® water filtration system that provides unsurpassed water quality! To ensure maximum water quality at all times, you should clean and reuse the larger pleated filter cartridge every month and replace (throw away) the smaller MicroClean filter cartridge every 3 months, or earlier as necessary. The smaller MicroClean filter cartridge is designed to be thrown away! Attempts to reuse this filter cartridge may result in the re-release of unwanted particles back into the spa. See page 47 for detailed filter cartridge replacement instructions.

Required Water Maintenance



TO DECREASE RISK OF INFECTION OR DISEASE! You should replace the spa’s water every 3 months. The frequency depends on a number of variables including frequency of use, number of users, and attention paid to water quality maintenance. You will know it is time for a change when you cannot control sudsing and/or you can no longer get the normal feel or sparkle to the water, even though the key water balance measurements are all within the proper parameters. See pages 53-54 for additional information.

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***** Spa operation subject to change without notice *****

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1.0 Important Spa Owner Information

Your new Sundance® Spas 780 Series spa is constructed to the highest standards and is capable of providing many years of trouble-free use. However, because heat retentive materials are utilized to insulate the spa for efficient operation, an uncovered acrylic spa surface and wall fittings directly exposed to sunlight and high temperatures for an extended period are subject to permanent damage or discoloration. Damage caused by exposing the spa to this abuse is not covered under warranty. We recommend that you always keep the spa full of water when it is exposed to direct sunlight and that you keep the insulating cover in place at all times when the spa is not in use. Read and carefully follow the requirements for your spa's support base found in Section 4.0 titled, "Choosing a Location" (Page 10).

We constantly strive to offer the finest spas available, therefore modifications and enhancements may be made which affect the specifications, illustrations and/or instructions contained herein.

2.0 FCC Notice

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:


1. Rearrange or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver
3. Connect the equipment into an outlet on a circuit different from the circuit connected.
4. Consult the dealer or an experienced radio/TV technician for help. Changes or modifications not expressly approved by the party responsible for FCC compliance could void the user's authority to operate this equipment.


3.0 Important Safety Instructions for all Spa Owners

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY!

This spa was manufactured to meet the standards and specifications outlined in the “Virginia Graeme Baker Pool and Spa Safety Act” (VGB Safety Act). When installing and using this spa, basic safety precautions should always be followed, including:



1.  **DANGER: RISK OF SEVERE INJURY OR DROWNING!**
 - Extreme caution must be exercised to prevent unauthorized access by children.
 - To avoid accidents, ensure that children do not use this spa unless supervised at all times. Adult supervision is a critical safety factor in preventing children from drowning.
 - Use the straps and clip tie downs to secure the spa cover when not in use. This will help discourage unsupervised children from entering the spa. Keep the spa cover secure in high-wind conditions.
 - There is no representation that the cover, clip tie-downs, or actual locks will prevent access to the spa.

2.  **DANGER: RISK OF SEVERE INJURY OR DROWNING!**
 - Keep hair, loose articles of clothing or hanging jewelry away from suction fittings, rotating jets or other moving components to avoid entrapment that could lead to drowning or severe injury.
 - Never use the spa unless all suction guards, filter, filter lid, or skimmer assembly are installed to prevent body and/or hair entrapment.
 - Never operate or use the spa if the filter, filter lid, or skimmer assembly are broken or any part of the skimmer assembly is missing. Please contact your dealer or nearest service center for service.
 - The suction fittings and suction covers in this spa are sized to match the specific water flow created by the pump(s). If it is necessary to replace the suction fittings, suction covers or pump(s), be sure that the flow rates are compatible and are in compliance with the VGB Safety Act.
 - Never replace a suction fitting or suction cover with one rated less than the flow rate marked on the original suction fitting. Using improper suction fittings or suction covers can create a body or hair suction entrapment hazard that may lead to drowning or severe injury.

3. **⚠ DANGER: RISK OF SEVERE INJURY FROM ELECTRIC SHOCK OR DEATH FROM ELECTROCUTION!**
- Install the spa at least 5 feet (1.5m), from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently connected (bonded) by a minimum No. 8 AWG (8.4 mm²) solid copper conductor attached to the wire connector on the grounding lug, inside the equipment compartment on the equipment box.
 - A grounding wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4 mm²) solid copper conductor between this unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5m) of the unit.
 - Never permit any electrical appliance, such as a light, telephone, radio, television, etc. within 5 feet (1.5m) of a spa unless such appliances are built-in by the manufacturer.
 - Never bring any electrical appliances into or near the spa.
 - Never operate any electrical appliances from inside the spa or when you are wet.
 - The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with article 422.20 of the National Electrical Code/USA, ANSI/NFPA 70. The disconnecting means must be readily accessible and visible to the spa occupant but installed at least 5 feet (1.5m), from the spa.
 - The electrical circuit supplied for the hot tub must include a suitable ground fault circuit interrupter (GFCI) as required by NEC Article 680.42.
4. **⚠ WARNING: RISK OF SEVERE INJURY OR DEATH!**
- Extreme caution must be exercised to prevent diving or jumping into the spa or slipping and falling, which could result in unconsciousness, drowning, or serious injury. Remember that wet surfaces can be very slippery.
 - Never stand, walk or sit on the top railing of the spa.
5. **⚠ WARNING: RISK OF HYPERTHERMIA (OVER-HEATING) CAUSING SEVERE INJURY, BURNS, WELTS OR DEATH!**
- Water temperature in excess of 40°C (104°F) may be injurious to your health.
 - Refer to Section 3.2 Hyperthermia for specific causes and symptoms of this condition.
 - The water in the 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 (children are especially sensitive to hot water) and when spa use may exceed 10 minutes.



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- The Consumer Products Safety Commission/USA has stated that the water temperature in a spa should not exceed 40°C (104°F).
- Always test the spa water temperature before entering the spa. The user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices may vary as much as +/- 2°C (5°F).

6. **WARNING: RISK OF SEVERE INJURY OR DEATH!**

- Persons excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, if pregnant or possibly pregnant, consult your physician before using a spa.
- Pregnant or possibly pregnant women should limit spa water temperatures to 38°C (100°F).
- Persons suffering from obesity or a medical history of heart disease, low or high blood pressure, circulatory system problems, diabetes, infectious diseases or immune deficiency syndromes should consult a physician before using a spa.
- If you experience breathing difficulties in association with using or operating your spa, discontinue use and consult your physician.
- 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.
- Persons suffering from any condition requiring medical treatment, the elderly, or infants should consult with a physician before using a spa.
- The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.

7. **WARNING: RISK OF SEVERE INJURY OR DEATH!**

- Prolonged immersion in a spa may be injurious to your health.
- Observe a reasonable time limit when using the spa. Exposures at higher temperatures can cause high body temperature (overheating). Symptoms may include dizziness, nausea, fainting, drowsiness, and reduced awareness. These effects could possibly result in drowning or serious injury.
- Never use a spa immediately following strenuous exercise. Enter and exit the spa slowly. Wet surfaces can be slippery.

8.  **WARNING: TO DECREASE RISK OF INFECTION OR DISEASE!**
- To reduce the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments, maintain water chemistry within the parameters listed on the inside cover of this manual and consult with a licensed engineer regarding proper ventilation if installed indoors or in an enclosed area.
 - People with infectious diseases should not use a spa to avoid water contamination, which could result in spreading infections to others.
 - Always shower before and after using your spa. Maintain water chemistry in accordance with manufacturer's instructions. Failure to do so may result in contracting a waterborne illness (e.g. an infection, bacteria or virus).
9.  **WARNING:** In addition to maintenance of filters and water chemistry, proper ventilation is recommended to reduce the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments that could be present in the air or water. Consult a licensed architect or building contractor to determine your specific needs if installing your hot tub indoors.
10. **CAUTION: TO DECREASE RISK OF PRODUCT DAMAGE.**
- Maintain water chemistry in accordance with manufacturer's instructions.
 - Proper chemical maintenance of spa water is necessary to maintain safe water and prevent possible damage to spa components.
11. **WARNING: RISK OF SEVERE INJURY OR DEATH!**
The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
12. **NOTE:** This spa is not intended nor designed to be used in a commercial or public application. The spa buyer shall determine whether there are any code restrictions on the use or installation of this spa since local code requirements vary from one locality to another.

Hot Tub Safety Literature

To ensure you have a safe and enjoyable hot tub experience, learn all you can about hot tub safety and emergency procedures.

The Pool & Hot Tub Alliance has a great source of safety literature.

- Go to <http://phta.org>
- Conduct your own search on the internet
- Write to the following address:
Pool & Hot Tub Alliance
2111 Eisenhower Avenue
Alexandria VA 22314
703.838.0083

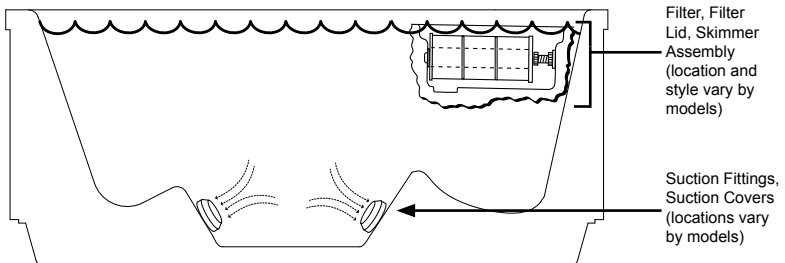
3.1 Entrapment Risk

The Consumer Products Safety Commission/USA has reported that users of pools and spas have become entrapped (stuck) to drain and/or suction fittings causing death, drowning, or serious injury (see diagram below). This spa was manufactured to meet the standards and specifications outlined in the “Virginia Graeme Baker Pool and Spa Safety Act” (VGB Safety Act). Entrapment risk can be minimized if proper precautions are taken.



DANGER: RISK OF PERSONAL INJURY OR DEATH!

Never operate the spa if a suction fitting, suction cover, filter, filter lid or skimmer assembly are broken, damaged or missing.



NOTE: Suction covers must be replaced every 7 years.

1. **⚠ DANGER: RISK OF SEVERE INJURY OR DROWNING!**
Hair entrapment: May occur if hair is entangled, knotted or snagged in a drain suction or skimmer assembly. This has been reported in persons who when submerge themselves underwater, allowing hair to come close and/or within the reach of the suction fittings, suction covers or skimmer assembly.
 - Keep hair away from suction fittings, suction covers, filter, filter lid or skimmer assembly.
 - Children are at risk for hair entrapment if swimming under water.
 - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

 2. **⚠ DANGER: RISK OF SEVERE INJURY OR DROWNING!**
Limb entrapment: May occur when a limb becomes entrapped, inserted or sucked into a suction or outlet opening.
 - Always keep suction fittings, suction covers, filter, filter lid or skimmer assembly in place when operating to avoid limb entrapment.
 - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

 3. **⚠ DANGER: RISK OF SEVERE INJURY OR DROWNING!**
Body entrapment: May occur when part of the torso becomes entrapped, inserted or sucked into a suction or outlet opening.
 - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

 4. **⚠ DANGER: RISK OF SEVERE INJURY OR DROWNING!** Body entrapment.
 - Do not insert fingers in massage jet nozzle.
-
5. **⚠ DANGER: RISK OF SEVERE INJURY OR DROWNING!**
Evisceration (disembowelment) entrapment: May occur when the buttocks becomes entrapped, inserted or sucked into a suction or outlet opening.
 - Never sit on suction fittings, suction covers, filter, filter lid or skimmer assembly.
 - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

 6. **⚠ DANGER: RISK OF SEVERE INJURY OR DROWNING!**
Mechanical entrapment: May occur when jewelry, swimsuit, or hair accessories become entangled, knotted or snagged in a drain suction or skimmer assembly.
 - Never allow your jewelry, swimsuit, or hair accessories to come close to the suction fittings, suction covers or skimmer assembly.
 - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

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3.2 Hyperthermia

Prolonged immersion in hot water may induce hyperthermia (overheating). The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in spas. A description of the causes, symptoms, and effects of hyperthermia are as follows:


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 (fatigue), and an increase in the internal temperature of the body (feeling of being too hot). The effects of hyperthermia include:

- Unawareness of impending hazard;
- Failure to perceive heat;
- Failure to recognize the need to exit spa;
- Physical inability to exit spa;
- Fetal damage in pregnant women; and
- Unconsciousness and DANGER of drowning.

A Warning Sign is provided in your warranty packet. Please install at a location near your spa, where it is visible to users of the spa. For additional or replacement Warning Signs please contact your local Sundance spas dealer and reference item number #6530-082.

3.3 Important Additional Safety Instructions

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

1. **READ AND FOLLOW ALL INSTRUCTIONS.**
2. A green colored terminal or a terminal marked G, Gr, Ground, Grounding or the  symbol* is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors that supply this equipment (*IEC Publication 417, Symbol 5019).
3. At least two lugs marked “Bonding Lugs” are provided on the external surface or on the inside of the supply terminal box/compartment. To reduce the risk of electric shock, connect the local common bonding grid in the area of the spa to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG (10 mm²).
4. All field-installed metal components such as rails, ladders, drains or other similar hardware within 10 feet (3m) of the spa shall be bonded to the equipment grounding buss with copper conductors not smaller than No. 6 AWG (10 mm²).
5. **SAVE THESE INSTRUCTIONS.**

3.4 General Electrical Safety Instructions

Your new Sundance® Spas 780 Series spa is equipped with a “state-of-the-art” equipment system. It contains the most advanced safety and self-protective equipment in the industry. Nonetheless, this spa must be installed properly to ensure dependable usage. Please contact your local Sundance dealer or local building department should you have any questions regarding your installation.

Proper grounding is extremely important. Sundance spas are equipped with a current collector system. A pressure wire connector is provided on the surface of the control box, located outside the equipment door (Figure B, page 17) to permit connection of a bonding wire between this point and any ground metal equipment, metal water pipe or conduit within 5 feet (1.5m) of the spa, or copper clad grounding rod buried within 5 feet (1.5m) of the spa. Bonding wire must be at least No. 8 AWG (8.4 mm²) solid copper wire. This is a most important safety assurance feature.

Before installing your spa, check with your local building department to ensure installation conforms to local building codes.

3.5 PRECAUTIONS-Important Chemical Safety

Do not use this device with bromide products.

3.6 PRECAUTIONS FOR USE OF PRODUCTS CONTAINING SODIUM BROMIDE

- Do not use any Product containing Sodium Bromide with an electrolysis device (for example, a chlorine generator).
- Do not use any Product containing Sodium Bromide with ozonation.
- Do not use any Product containing Sodium Bromide with ultraviolet (UV).

4.0 Choosing A Location

IMPORTANT: Because of the combined weight of the spa, water and users, it is extremely important that the base upon which the spa rests be smooth, flat, level and capable of uniformly supporting this weight, without shifting or settling, for the entire time the spa is in place. Visit www.SundanceSpas.com for weight information. If the spa is placed on a surface which does not meet these requirements, damage to the skirt and/or the spa shell may result. Damage caused by improper support is not covered under warranty. It is the responsibility of the spa owner to assure the integrity of the support over time. We recommend a poured, reinforced concrete slab with a minimum thickness of 4 inches (10 cm). Wood decking is also acceptable provided it is constructed so that it meets the requirements outlined above.



WARNING: For spas that are to rest on balconies, roofs or other platforms not specifically tied into main structural support, consult a professional Structural Engineer with experience in this type of application.



WARNING: Proper drainage is required. The installation must not allow the spa equipment bay to become flooded or wetted (by external water). It is your responsibility, and the responsibility of any installation contractor you hire, to make sure that all applicable codes and/or local construction requirements are met. If in doubt, refer to the building authority responsible for approving the proposed installation site.

The spa must be installed in such a manner as to provide drainage away from it. Placing the spa in a depression without provisions for proper drainage could allow rain, overflow, leaks from spa plumbing, and other casual water to flood the equipment and create a wet condition in which it would sit in. For spas which will be installed below grade or recessed into a floor or deck, install so as to permit access to the equipment, either from above or below, for servicing. Make certain that there are no obstructions which would prevent removal of all side cabinet panels and access to the jets components, especially on the side with the equipment bay doors.



CAUTION: If the spa is indoors or located in an enclosed area, proper ventilation should be discussed with an Engineer or authority competent enough to understand the necessary provisions needed to vent moist or heated air and air associated with chemical odors outdoors. **When the spa is in use considerable amounts of moisture will escape potentially causing mold and mildew.** This can cause health risk. Over time, this can damage certain surfaces, surroundings, and equipment.

4.1 Outdoor Location

In selecting the ideal outdoor location for your spa, we suggest that you take into consideration the following:

- The proximity to changing area and shelter (especially in regions subject to cold weather).
- The pathway to and from your spa (this should be free of debris so that dirt and leaves are not easily tracked into the spa).
- The closeness to trees and shrubbery (remember that leaves and birds could create extra work in keeping the spa clean).
- A sheltered environment (less wind and weather exposure can result in lowered operation and maintenance costs).
- The overall enhancement of your environment. It is preferable not to place the spa under an unguttered roof overhang since run-off water will shorten the life expectancy of the spa cover.
- For spas that are to rest on balconies, roofs or other platforms not specifically tied into main structural support, consult a professional Structural Engineer with experience in this type of application.
- In the unlikely event that you should ever need to access or gain entry to any portion of the spa for servicing, it is highly recommended that you plan your outdoor installation to provide full access to the entire spa. Please take this into consideration when placing the spa in a deck or enclosed by a surrounding.
- Consider locating your spa away from any reflective surface or glass to prevent any damage to the synthetic skirt.
- Do not shim the spa. To ensure proper support the spa must sit flat on the intended foundation.

4.2 Indoor Location

For indoor installations many factors need to be considered before installing a spa indoors:



WARNING: In addition to maintenance of filters and water chemistry, proper ventilation is recommended to reduce the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments that could be present in the air or water. Consult a licensed architect or building contractor to determine your specific needs if installing your hot tub indoors.

- **PROPER FOUNDATION:** Consult a Structural Engineer when considering a foundation that will adequately support the spa the entire time it is in place. Proper support is critical especially if the spa is to rest on a second story or higher. For spas that are to rest on balconies, roofs or other platforms not specifically tied into the main structural support, you should consult a professional Structural Engineer with experience in this type of application.
- **PROPER DRAINAGE:** It is extremely important to have in place measures to sufficiently handle excessive water spillage. Be sure the flooring in which the spa rests on has adequate drainage and can handle draining of the entire contents of the spa. Be sure to make

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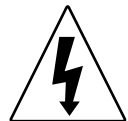
provisions for ceilings or any other structures that may be below the spas installation. Areas around your spa can become wet or moist so all flooring and subsequent furniture, walls and adjacent structures should be able to withstand or resist water and moisture.

- **PROPER VENTILATION: Proper ventilation should be discussed with an Engineer or authority competent enough to understand the necessary provisions needed to vent moist or heated air and air associated with chemical odors outdoors.** When the spa is in use considerable amounts of moisture will escape potentially causing mold and mildew, over time this can damage certain surfaces and or surroundings.
- **SUFFICIENT ACCESS:** In the unlikely event that you should ever need to access or gain entry to any portion of the spa for servicing, it is highly recommended that you plan your indoor installation to provide full access to the entire spa.
- **WARRANTY:** Damage caused by not following these guidelines or any improper installation not in accordance with local codes or authorities is not covered under the spas warranty. Please consult your local state or city building ordinances.
- **DO NOT SHIM THE SPA.** To ensure proper support the spa must sit flat on the intended foundation.

5.0 Power Requirements

Sundance® Spas hot tubs are designed to provide optimum performance and flexibility of use when connected to the maximum electrical service listed on pages 12-13. If you prefer, your qualified technician can perform a minor circuit board modification to allow your spa to accept an electrical service other than the factory setting.

Note: Refer to page 63 for circuit board configuration details or contact your authorized Sundance dealer.



Export Models (50 Hz) Service

	Single Breaker Service 1 (including Heater)*	Single Breaker Service 1 (including Heater)**
Voltage:	230 VAC	230 VAC
<u>Max. Current Draw:</u>		
1-Pump System	15A	22A
2-Pump System	17A	29A
<u>Wattage:</u>		
1-Pump System:	3.5 kW	5.1 kW
2-Pump System:	3.9 kW	6.7 kW
Frequency:	50 Hz	50 Hz
Number of Wires:	3	3

* For this service, the heater **will not operate** while either jets pump is running. The service 1 breaker will include connection for all components.

** For this service, the heater **will operate** while two jets pump are running. The service 1 breaker will include connection for all components.

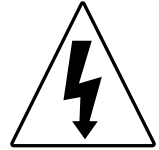
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	Dual Breaker Service 1/ Service 2***	Three Phase Service Service 1/ Service 2/Service 3****
Voltage:	230 VAC	230 VAC
<u>Max. Current Draw:</u>		
1-Pump System	12A/10A	N/A
2-Pump System	12A/17A	12A/10A/7A
<u>Wattage:</u>		
1-Pump System:	2.8 kW/2.3 kW	N/A
2-Pump System:	2.8 kW/3.9 kW	2.8 kW/2.3 kW/1.6 kW
Frequency:	50 Hz	50 Hz
Number of Wires:	5	5


*** For this service, the heater **will operate** while two jets pump are running. The service 1 breaker will include connections for the heater and lighting. The service 2 breaker is for all other components.

**** In this configuration, the heater **will operate** while all jets pumps are running. The service 1 breaker will include connections for the heater and lighting. Service 2 breaker is for pump 1 and other components. Service 3 breaker is for pump 2.

6.0 Electrical Wiring Instructions



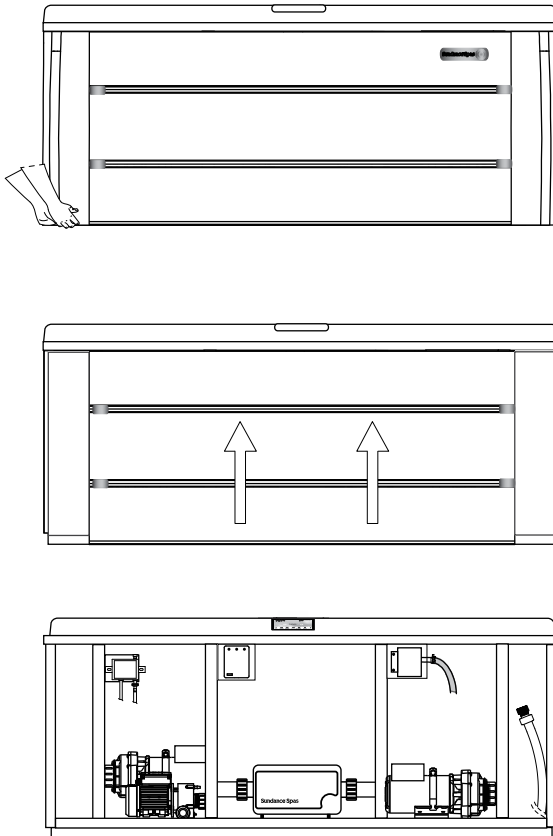
IMPORTANT NOTICE: The electrical wiring of this spa must meet the requirements of any applicable state, country or local codes. The electrical circuit must be installed by a qualified electrician and approved by a local building/electrical inspection authority.

1.  **DANGER: TO DECREASE THE RISK OF SHOCK, PRODUCT DAMAGE OR ELECTRICAL FIRE.**

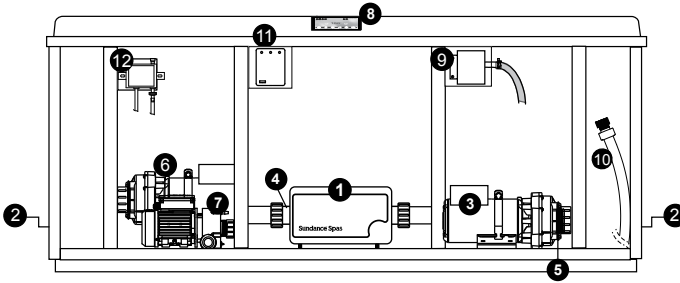
These spas must be permanently connected (hard-wired) to the power supply. **No plug-in connections or extension cords are to be used in conjunction with the operation of these spas.** Supplying power to these spas which is not in accordance with these instructions will void both the independent testing agency listing and the manufacturer's warranty.
2. The power supplied to this spa must be a dedicated circuit with no other appliances or lights sharing the power provided by the circuit.
3. To determine the current, voltage and wire size required, refer to Section 5.0 "Power Requirements" (pages 12-13).
 - Wire size must be appropriate per Country and/or local codes.
 - The spa controller's terminal block will accept a maximum wire size of 6 AWG (10 mm²).
4. The electrical supply for this product must include a suitably rated isolating switch and circuit breaker to comply with local electrical regulations. This RCD/GFCI circuit breaker must be installed at the power supply in the house electrical box.
5. For Australia/New Zealand, the spa should be supplied through a residual current device (RCD) with a rated tripping current not exceeding 30mA (IEC 60335-2-60).
6. The appliance is not intended for use at altitudes exceeding 2 000 m.
7. The skirt panels provide easy access to the equipment bay and components without having to unscrew the panel, Figure A. To remove the skirt panels follow the steps below:
 - Grab one of the corner panels, from the bottom, where it touches the bottom pan. Then gently pull the panel forward to unsnap it from the holding clip then pull down to remove. Place the panel in a safe location to prevent from damaging it. Repeat the steps to remove the other corner panel.
 - Grab the bottom of the front panel and slightly lift to release it from the top mount. Tilt the panel and pull down to remove. Before completely removing the panel, take hold of the indicator light wire and gently pull on it to slide the light from the housing. The exterior lights on the front panel are connected to the light wires. Slide the light out of housing to disconnect. Place the panel in a safe location to prevent from damaging it.

- To reinstall the panel just follow the steps above in reverse order.
Note: Exposure of the cabinet to heat could cause the cabinet to warp. Should the cabinet warp, once it is installed, the warping is not visible. However, it does make the removal and replacement a little more challenging.
- 8. Select the power supply inlet you want to use (Figure B, page 16). Feed power cable to control box, then install it through the large opening provided in the side of the box.
- 9. Connect wires on terminal block TB1 (Figure C, page 17). **TIGHTEN SECURELY!** All wires must be hooked up securely or damage could result.
- 10. Reinstall the control box door and screws, insulation panel (if equipped), secure the insulation blanket (if equipped), and reinstall the cabinet panel.

Figure A



**Figure B
Equipment Area**



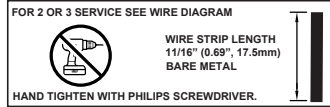
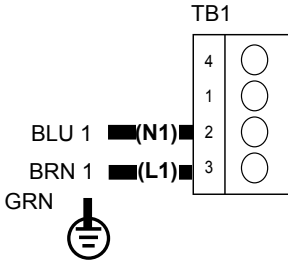
Note: Equipment location (such as pumps, sanitizing system, drain, heater etc.) varies by model.

- | | |
|-----------------------------|------------------------------------|
| 1. Control Box | 7. Circulation Pump |
| 2. Power Supply Entrance(s) | 8. Control Panel |
| 3. 1-Speed Pump | 9. ClearRay® |
| 4. Heater | 10. Drain valve |
| 5. Pump Drain Plug | 11. Optional SmartTub® System |
| 6. 1-Speed Pump | 12. ClearRay PRO ₃ TECT |

Figure C
(Export 50 Hz 230 VAC Connection*)

***IMPORTANT NOTE:** Wire connections on controller board must be changed depending on the number of breakers being used, page 66.

230V 1p 1x SINGLE SERVICE



Service 1

Factory Default

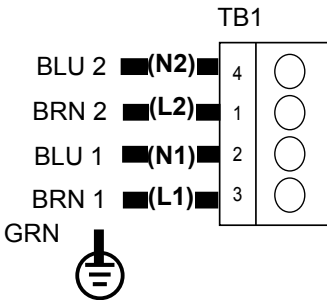
Brn (L1)

Blu (N1)

BREAKER TERMINAL CONNECTIONS

L1 = All components

230V 2p 2x DUAL SERVICE



Service 1

Blu (N1)

Brn (L1)

Service 2

Brn (L2)

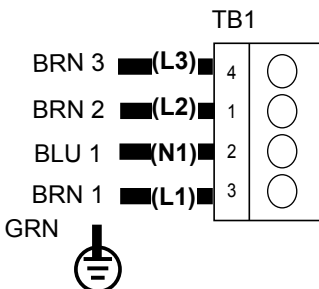
Blu (N2)

BREAKER TERMINAL CONNECTIONS

L1 = Heater & Lighting

L2 = All other components

230V 3p 3x THREE SERVICE



Service 1

Blu (N1)

Brn (L1)

Service 2

Brn (L2)

Service 3

Brn (L3)

BREAKER TERMINAL CONNECTIONS

L1 = Heater, Circ, Ext Lights & Lighting

L2 = Pump 1 and other components

L3 = Pump 2

7.0 Spa Fill Up Procedure

For best results, read each step in its entirety before proceeding with that step. **Make sure all drains are closed before you begin.**

1. Prepare The Spa For Filling

- Clear all debris from the spa. (Although the spa shell has been polished at the factory, you may want to treat it with a specially formulated spa cleaner.) Consult your dealer for additional information prior to filling spa.
- If using the primary filter inlet to fill, remove filter cover, then remove filter cartridge as outlined in Section 12.1 (page 47).

IMPORTANT: In most cases, filling the spa by placing the hose in the footwell will not create an airlock, page 1. If you experience an airlock we recommend filling by placing the end of your garden hose into the primary filter inlet, page 47.

2. Fill Spa

- Place the end of your garden hose into the one of the following primary filter inlet or footwell. Fill until water covers all jets but does not touch the bottom of the lowest headrest.

CAUTION: TO DECREASE BUILD UP ON COMPONENTS AND MINIMIZE ACRYLIC DAMAGE.

Never fill with water from a water softener. If your water is extremely “hard”, it is preferable to fill half-way with hard water and the rest of the way with softened water. Water that is too soft can be corrosive to metal components.

-  **WARNING: TO DECREASE RISK OF INFECTION OR DISEASE.**

Fill hot tub with clean tap water from garden hose, to reduce risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments. Fill until water covers all jets but does not touch the bottom of the lowest headrest. (DO NOT OVERFILL!)

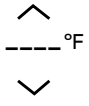
3. Turn on Power (Priming Mode)


Turn on power to spa at the home’s circuit breaker to start the priming of the pumps.

- After power is applied, the control panel displays a sequence of configuration settings.
- Then it will display the Priming Mode Menu.
- To begin the Priming Mode, press the Jets 1 button. If you have a two-pump system, press the Jets 2 button to turn the pump on. Then press the circulation pump button to activate. This cycle will last about 3-5 minutes.



- After the cycle ends, the display briefly shows the set temperature. Then it displays “- - - - °F” until the actual water temperature is determined. You can manually turn the pumps off after the temperature is displayed.



Note: You can skip the Priming Mode by pressing the Back button (). This is not recommended.

4. **Activate Jets Pumps**

Turn on all jet(s) pumps to ensure proper mixing when adding start-up chemical in step 5.



5. **Add Start-Up Chemicals**

Add the spa water chemicals as recommended by your Sundance dealer. See Section titled “Water Quality Maintenance” (page 53) for general guidance.



WARNING: RISK OF POISONING OR DEATH.

Never leave chemicals opened and accessible to anyone. Use chemicals according to the vendors instructions. Always store chemicals in a safe and/or locked location. Keep away from and out of reach of children.



6. **Establish A Stable Sanitizer Reading**

Establish a stable sanitizer reading no less than 1.0 ppm chlorine or 2.0 ppm bromine. To ensure healthy water conditions, always maintain a constant sanitizer reading within the levels recommended on the inside cover of this manual.

7. **Set Spa To Heat**

To warm spa water to a comfortable temperature, follow these steps:



- The LED display on the control panel displays the actual temperature of the spa water. Press either the **COOLER** () or **WARMER** () button once to display the “set” temperature for 5 seconds. If you want the water to heat to a different temperature, simply press **COOLER** or **WARMER** within 5 seconds. The set temperature increases or decreases by 0.5°C (1°F) each time one of these buttons is pressed.
- The heater will turn off when the temperature corresponding to the thermostat setting is achieved.

Important Heater Details:

- The maximum temperature for which the spa can be set is 40°C (104°F) and the minimum is 18°C (65°F).
- For Export (50 Hz) 2-pump spas powered by a 20 amp service, jet pump #1 and jets pump #2 must be turned off to operate the heater.
- Setting the thermostat at maximum will not accelerate the heating process. This will only result in a higher ultimate temperature.
- The heater operates until the water reaches the programmed “set temperature”, then turns off. The heater will reactivate after the water cools to approximately 1°C (2°F) below the “set temperature.”

8. Place Cover On Spa

- Keeping the insulating cover in place anytime the spa is not in use will reduce the time required for heating, thereby minimizing operating costs.
- The time required for initial heat-up will vary depending on the starting water temperature.



DANGER: RISK OF PERSONAL INJURY.

Check water temperature carefully before entering hot tub! Excessive water temperature can cause burns, welts and body temperature to rise, hyperthermia (over-heating).

Decontamination Procedure (Steps 9-15)

Steps 9-15 below are only required when sanitizer levels are unstable after performing steps 1-6 above. Disregard steps 9-15 below if sanitizer levels remain stable at the levels recommended on the inside cover of this manual.

Note: The “decontamination procedure” steps 9-15 should also be used after the spa has been “Winterized” (Section 12.7, page 51) or has been sitting without power for an extended period.

9. Add 71 g (2.5 ounces) of sodium dichlor for every 378 Liters (100 gallons) of water.



CAUTION: RISK OF PERSONAL INJURY OR Spa DAMAGE!

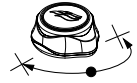
Never add chlorine tablets (trichlor) or acid to your hot tub for any reason! These chemicals may damage components within your hot tub, burn or irritate your skin, create a rash, and void the manufacturer warranty for your spa.

Water Fill Capacity

Model	Average Fill Volume*	Sodium dichlor
Bristol.....	1,269 L (335 Gal).....	238 g
Chelsea	1,420 L (375 Gal).....	267 g
Dover.....	852 L (225 Gal).....	160 g
Hamilton	1,401 L (370 Gal).....	263 g
Montclair	1,136 L (300 Gal).....	213 g

*Use average fill volume for chemical maintenance

10. Leave spa cover open during this step to allow excessive chemical vapors to exit spa, protecting pillows and plastic knobs from chemical attack. If spa is indoors, open doors and windows for proper ventilation. Turn on all spa jets pumps for one hour, open all air controls, and place all massage selector knob(s) in their center “combo” position as shown (right).



Note: You will need to press the jets pump button(s) every 20 minutes since these functions have an automatic 20 minute time-out function that turns them off.



WARNING: BECAUSE OF THE RISK OF INHALING CHEMICAL VAPORS.

- To decrease the risk of injury, drowning or entrapment, never leave your hot tub unattended for any reason while the cover is open and accessible, especially to small children and animals!
- Precautions should be taken to minimize your exposure to chemical vapors (that could cause lung, brain, or skin damage).

11. Turn off power to the spa at the circuit breaker, then drain spa as outlined in Section 12.2 (page 49).
12. Refill spa with clean tap water from garden hose until water covers all jets but does not touch the bottom of the lowest headrest. (DO NOT OVERFILL!)

CAUTION: TO DECREASE BUILD UP ON COMPONENTS AND MINIMIZE ACRYLIC DAMAGE.

Never fill with water from a water softener. If your water is extremely “hard”, it is preferable to fill half-way with hard water and the rest of the way with softened water. Water that is too soft can be corrosive to metal components.

13. Consult your authorized Sundance dealer for chemical recommendations, then add chemicals to spa water to achieve a constant sanitizer reading within the levels recommended on the inside cover of this manual.

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14. Turn on all jet pumps when adding chemicals to ensure proper mixing and leave your spa cover open until the sanitizer level becomes stable to protect pillows and plastic knobs from chemical attack. Refer to the inside cover of the manual.



WARNING: RISK OF PERSONAL INJURY.

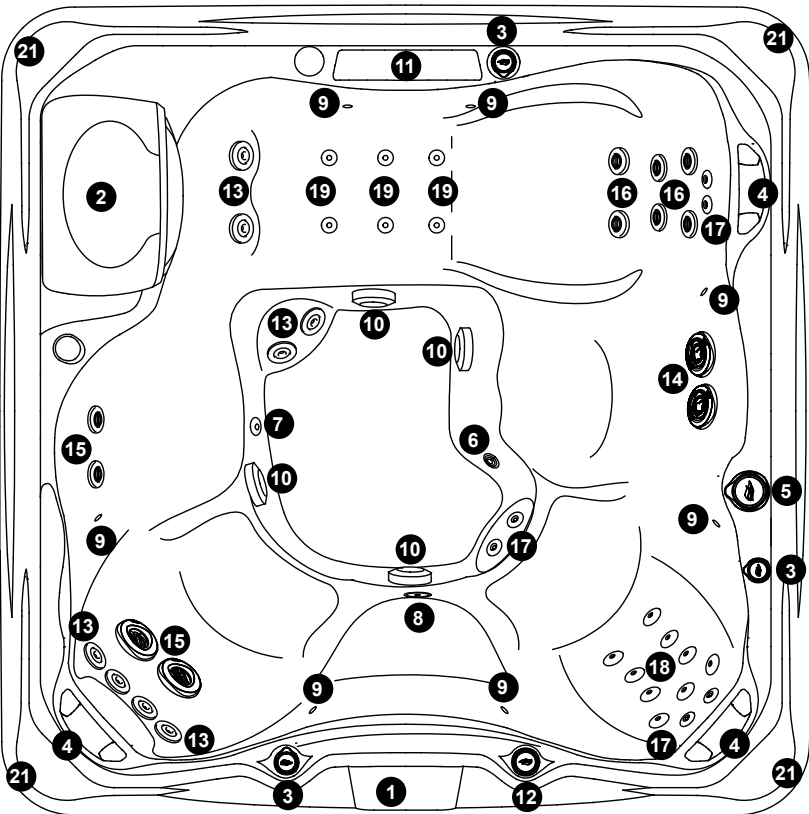
- To decrease the risk of injury, entrapment or drowning, never leave your hot tub unattended for any reason, especially if while the cover is open and accessible to small children and animals!
- To decrease the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments, maintain water chemistry within 6 step parameters. If you or other bathers experience such a condition, discontinue use and seek immediate medical attention.

15. Establish a sanitizer reading no less than 1.0 ppm free chlorine or 2.0 ppm bromine, then allow the hot tub to set undisturbed for 8 hours. Retest water after 8 hours to determine if sanitizer levels are stable. If sanitizer levels are stable, your spa is ready for use. To ensure healthy water conditions, always maintain a constant sanitizer reading within the levels recommended on the inside cover of this manual. If sanitizer levels are not stable at this time, it will be necessary to repeat this procedure in its entirety (steps 1-15) until stable sanitizer readings are achieved.

IMPORTANT: If the ClearRay Active Oxygen® water purification system is removed from the hot tub or is not operating effectively follow the “without ClearRay®” water chemistry parameters as defined by the Pool & Hot Tub Alliance.

16. After adequate sanitizer levels are achieved, close all spa air controls to maximize heat retention when spa is not in use.

8.0 Hot Tub Features



20 ↑ Hamilton model illustrated - Jet locations and features will vary by model. Spa features subject to change without notice.

- | | |
|---|---|
| 1. Control Panel | 11. Waterfall w/LED Light |
| 2. Filter Lid and Filter Cartridge | 12. Waterfall Control (On/Off) |
| 3. Air Controls with lights (3) | 13. Mini-Vortex Jets (8) |
| 4. Pillows (3) | 14. Vortex Jets (2) |
| 5. Massage Selector | 15. Fluidix-Intelli Jets (2) |
| 6. Gravity Drain/Ozone Return/
Heater Return Fitting | 16. SMT Fluidix Jets (8) |
| 7. Waterfall overflow | 17. SMT Micro Jets (6) |
| 8. Spa Light | 18. Accu-Pressure Jets (9) |
| 9. Multiple LED Accent Lights (6) | 19. Adjustable Accu-Pressure Jets (6) |
| 10. Suction Fittings (4) | 20. Optional BLUEWAVE® Spa Stereo
System |
| | 21. Optional Audio System Speakers, (4) |

Specifications Subject to Change Without Notice.

9.0 Registration and Start-up

9.1 Start-up Sequence

When power is first applied, the control panel will display the screens below will be displayed, Figure A. Then you will need to active the Priming Cycle, page 18.

Note: The start-up menu will time out after approximately 10 seconds and then change to the Priming Mode Menu.



Figure A

9.2 Register Your New Spa

Follow these steps to register your hot tub.

1. Using your home computer or other device, connect to the internet.
2. Go to www.SundanceSpas.com website to register your hot tub.
3. Click **Owner Resources**
4. Click **Warranty Registration**
5. Enter your serial number.
6. Click **Next** to continue to complete your registration.

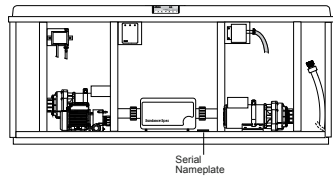


Figure A

Keep a record of your serial number for any future reference. Write that information below.

Serial Number: _ _ _ _ _

9.3 Control Panel

The system makes operating your spa a breeze. You can navigate through the menus and sub-menus with ease. Simply touch the icons on the LCD display to begin operating your new Sundance spa.

Note: If there is no activity between 1 to 5 minutes (depending on program, page 44), the LCD display, will time-out into a sleep mode. To reactivate the control panel, gently tap the display.

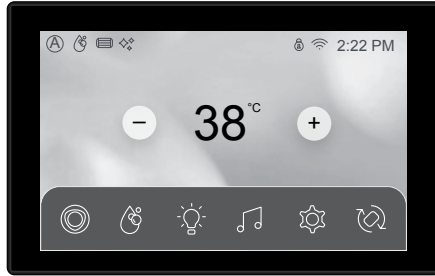


Figure A

- ⊖ 38 ° ⊕ = **Temperature Control:** Allows you to adjust the set temperature of the spa:
- Increase or decrease the temperature by pressing the ⊖ or ⊕ buttons.

Note: The temperature range for the spa is 18.33 to 40°C (65 to 104°F). To activate the **Extended Temperature feature** that allows the spa to reach 41°C (106°F), see page 62.



WARNING: RISK OF HYPERTHERMIA (OVER-HEATING) CAUSING SEVERE INJURY, BURNS, WELTS OR DEATH!

Water temperature in excess of 104°F (40°C) may be injurious to your health.



= **Jet Button:** Tap to access the menu to operate the jets pumps, page 27.



= **Light Button:** Tap to access the menu to operate the lighting options, page 28.



= **ClearRay Button:** Tap to activate the ClearRay on demand feature, page 33.



= **Settings Button:** Tap to access the programming and setting menus, page 35.



= **Music Button:** Tap to access the menu to operate the audio system and settings, page 29.

Note: If the spa does not have the stereo option, there will not be a button on the control panel.



= **Invert Button:** Tap to invert the display image.

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= **Error Indicator Icon:** Displays when there is an error message that needs to be addressed. The icon will also appear at the Home Menu as a reminder. Tap to view the condition that requires attention.



= **Information Icon:** Tap to display the information message.



= **Reminder Icon:** Tap to display the reminder message.



= **Heat Mode Icon:** Indicates the heat mode that is activated.



= **ClearRay® Icon:** Indicates that the ClearRay is on.



= **Filtration icon:** Indicates that a filtration cycle is on.



= **Cleanup Cycle icon:** Will display when the Clean up Cycle is on.



= **Lock Icon:** Displays when one of the lock modes is enabled, page 42.



= **Wi-Fi Icon:** Will display when if the optional SmartTub® system is installed.


2:22 PM = **Time Indicator:** The time will always be shown when the Home Menu is displayed. The appearance will vary depending on whether the clock is set to a 12-Hour or 24-Hour configuration, page 44. The default setting is 12-Hour.

Note: The time does NOT automatically adjust for daylight saving time. The time must be manually adjusted.

10.0 Operating Instructions

Your Sundance® Spas hot tub has a touch-sensitive control panel, massage selector valves and air control knobs located on the top rim of the hot tub (Section 8.0, page 23). These controls let you operate many of the special functions of your Sundance hot tub. By familiarizing yourself with the following information, you will be able to gain the full benefits afforded by the various functions of your hot tub.

10.1 Activating the Jets Pumps

From the Home Menu, (Figure A), tap  to enter the Submenu. The panel will display the Spa Submenu (Figure B).

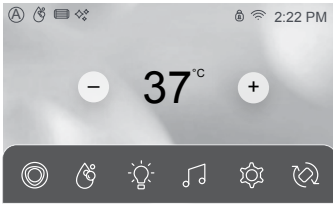


Figure A

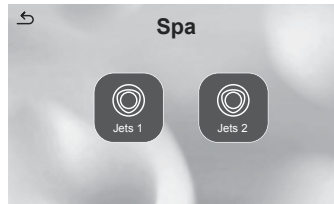


Figure B



= **Jets Pump 1 Button**



= **Jets Pump 2 Button (If equipped)**



= **Back Button:** Tap to go back to the Home Menu.


A. Jets Pumps

1. Tap the Jets 1 button to turn the pump on and off.
2. Tap the Jets 2 button to turn the pump on and off.

Note: Anytime a pump has been manually turned on, it will automatically turn off after approximately 20 minutes. If at this time you desire more jet operation, you may simply turn the pump(s) back on.

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10.2 Lights Menu

From the Home Menu, (Figure A), tap  to enter the Light Submenu. The LCD screen will display the Light Submenu (Figure B). From this menu you can control the hot tub lighting.

Note: The lights automatically turn off after 2 hours. They can be reactivated if needed.

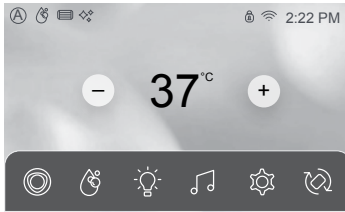


Figure A

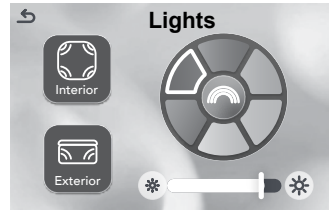





Figure B




= **Intensity Control:** Press or slide to activate and adjust the intensity of the lights. This will only work with the solid color option. The range is from off to 5. To turn off the lights, the intensity level must be decreased to off. Lights will default to last setting used.


- Tap  to raise the intensity of the lights to the maximum level of 5.
- Tap  to lower the intensity of the lights to the minimum level of off (.



= **Speed Control:** Controls the blending speed for the lights. The range is from off to x5.

- Tap  to increase or decrease the blending speed, of the colors.



= **Interior Light:** Press to activate the interior lights. The lights will default to the last setting used at a 100% intensity. The lights can also be turned on by selecting a color or pressing the high intensity button .



= **Exterior Light:** The exterior corner lighting has 2 settings. The lights display a solid White color only. By continually tapping the button you will scroll through the following:

- Press once, exterior lights are on at high intensity.
- Press again, exterior lights are on a timer. On at 7PM and off at 12AM every day. Default intensity is high.
- Press a third time to turn off.

Note: The exterior lights automatically turn off after 8 hours, except for the timer setting.




= **Back Button:** Tap to go back to the Home Menu.



= **Color Selector:** Tap a color to select a single color.

10.3 Music Menu

Models equipped with the optional Audio System offer an enhanced spa experience. The BLUEWAVE® 2.0 Wireless Audio System works with most Bluetooth® wireless devices. An auxiliary device can be connected, via a 3.5 mm plug cable, located behind the front cabinet panel, if a Bluetooth device is not available. These models also include four high fidelity spa engineered speakers for unsurpassed sound quality and long-life, and an integrated powered subwoofer for a superb acoustical sound. **Note:** If the spa does not have the stereo option, there will not be a button on the control panel.

To access the Music Menu, tap , Figure A. The display will change to Figure B. Once you enter the Music Menu, tap the power button to turn the stereo on. Your connected electronic device, Bluetooth or auxiliary, provides the audio entertainment.



WARNING: RISK OF ELECTRICAL SHOCK HAZARD EXISTS AND EQUIPMENT DAMAGE! Never install or remove electrical devices while hands are wet or while sitting partially immersed or fully immersed in spa!

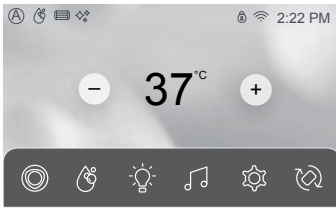


Figure A

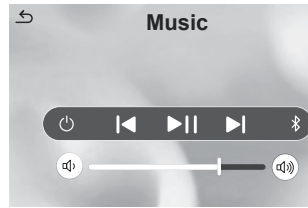


Figure B



= **Power Button:** Tap to turn the stereo on and off.



= **Bluetooth:** Allows a Bluetooth device to be connected to the stereo. Tap the icon to switch to Auxiliary.



= **Auxiliary:** Allows a Bluetooth device to be connected to the stereo. Tap the icon to switch to Bluetooth®.



= **Volume Up:** Tap or slide to increase the volume.



= **Volume Down:** Tap or slide to decrease the volume.



= **Forward:** Tap to advance forward through tracks.



= **Rewind:** Tap to move back through tracks.



= **Pause/Play:** Tap to pause and play tracks.

Song Title = Song Title: Will display the song title information if it is available. If the information is not available this part will be blank. If the information provided is too long, the maximum number of characters will be displayed followed by dots (“...”).



= **Audio Settings:** Tap to access the audio submenu, page 31. **Note:** Icon will not appear until the power button is pressed.




= **Back Button:** Tap to go back to the Home Menu.

10.4 Connecting the BLUEWAVE® System with your Bluetooth® device

A. To bridge a connection between the BLUEWAVE 2.0 Wireless Audio System and your Bluetooth® device, follow the steps below.

Note: The Bluetooth menu and Bluetooth connection will not display unless the optional audio system is available. If you experience a connection problem with your Bluetooth device, make sure that the Bluetooth antenna is secure and located at the highest point within the equipment bay.

1. Tap the music icon on the control panel screen then tap the power button.
2. From your Bluetooth device, make sure that the Bluetooth setting is ON.
3. Follow the pairing instructions for your Bluetooth device and connect to the “BLUEWAVE” device that appears on your screen.
4. Once the connection is established, the Bluetooth icon () on the screen will be displayed confirming the connection.
5. If asked for a password, enter the password “0000” and then tap “Pair” on your device to connect.
6. If the pairing process is successful, your Bluetooth device will show “Connected” right next to “BLUEWAVE.”

B. Connecting an Auxiliary Device

1. Remove the front panel.
2. Locate the BLUEWAVE unit in the equipment bay.
3. Locate the cable labeled “AUX” that is connected to the unit.
4. Use a 3.5 mm cable (not included) to connect your auxiliary device.
5. Run the cable safely, through the front, and reinstall the panel.

Note: Use caution in handling the auxiliary device, the placement of the device and that the cable is not in the way.

10.5 Audio Settings Menu


To enter the Audio Settings, tap  from the Bluetooth® submenu, Figure A. The display will change to Figure B. The Audio Settings offer an enhanced audio experience by providing a custom or preset listening settings.



Figure A

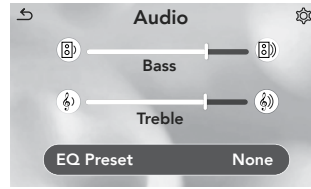


Figure B



= **Bass Selection:** Tap to adjust the bass setting to create a custom sound.



= **Treble Selection:** Tap to adjust the treble setting to create a custom sound.



=

Bass/Treble Adjustment Bars: Tap the Bass or Treble buttons or slide the bar to adjust the settings. This feature can be used to create a custom sound.



=

EQ Preset: Tap to activate the Rock, Pop or Classical preset audio settings.



=



= **Back Button:** Tap to go back to the Home Menu.

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10.6 Selecting Desired Massage Action

Your Sundance spa is equipped to allow you to customize the massage action you desire. Each model incorporates a massage selector that allows you to customize the massage and performance by diverting water between various jet systems. Simply turn massage selector to position A (Combo), B, or C to divert water pressure to various jet groups.



Note: The massage selector is designed to operate in positions A (Combo), B, and C for optimum performance. It is considered normal for sound levels within the valve to vary between positions due to the large amounts of water flowing through it. For optimum filtration benefits, leave the valve in position A when spa is covered. Select position B or C for maximum jet performance during spa use.

10.7 Jets

The water flow through certain jets in your spa can be adjusted or turned off by rotating the outside jet ring.

Note: Always keep at least 6 adjustable jets open at all times on each jet system.



Mini Vortex Jet

10.8 Air Controls

Certain jet systems have their own air control. Each control introduces air into the water lines that supply specific jet groups. Simply rotate any air control knob clockwise to open, or counterclockwise to close.



Note: To minimize heat loss, close all air controls when spa is not in use. Certain jets may not draw air while the jets pump is running in low speed; this is considered normal.

10.9 Optional Spa Sense™ System powered by Sutro

The optional Spa Sense™ water testing system is a great addition to help maintain the chemical balance of your hot tub's water through automatic daily testing balanced. Scan the QR code for the Spa Sense™ Manual. It works with our SmartTub® app to notify you when care is needed. To ensure the longest life of the liquid reagent cartridge, the installed Spa Sense sensor does not have a cartridge installed. Please visit your dealer or use the SmartTub® mobile application shopping section to purchase the reagent cartridge. For sensor specific information contact, Sutro Connect Inc. 101 Broadway Oakland, CA 94607, or email to support.mysutro.com. For SmartTub® information, email support@smarttub.net.



Note:

- The SmartTub® app requires an annual subscription.
- The system requires a new reagent cartridge every 3 months which can be ordered from your dealer or in the SmartTub® app.



10.10 Waterfall Operation

Turn waterfall control valve counterclockwise to increase waterfall output. Turn control valve clockwise to decrease or turn off waterfall output.


Note: It takes half of a revolution to change the waterfall from a full off to a full on flow rate. When the waterfall is in the OFF position some water may still flow through. This is considered normal.

10.11 Cleanup Cycle

The cleanup cycle occurs once per day at 12:00 PM (noon) for 2 minutes. This is not user programmable. The Jets Pump 1 and the Circulation Pump will turn on for one minute and then shut off. Then Jets Pump 2 will turn on and run for 1 minute then shut off.

Note: Turning off the corresponding jets pump that is running can deactivate the feature.

10.12 ClearRay® on Demand

The ClearRay on demand feature activates the water purification system. Continuously tap  to activate the system for 1 hour, 2 hours, 3 hours or OFF. During this time the circulation pump and the ClearRay unit are on.

Note: When the ClearRay system is on, due to a programmed or scheduled setting, the feature cannot be turned off.

10.13 Ozone Operation

The Ozonator will activate anytime the circulation pump is on during the Primary Filter Cycle or heat call.

Note: DO NOT press either JETS button, this will shut off the ozone for the amount of time the jets are on plus 5 minutes after they shut off.

10.14 Optional SmartTub® System

Advances in technology have allowed us to create a better and smarter hot tub. Our SmartTub® system operates on a cellular or Wi-Fi network. The advantages of this system are:

- A more stable connection to internet for outdoor environment. The SmartTub® device uses much less data than a typical voice connection via cellular or Wi-Fi networks. We contract through the largest wireless carriers to ensure maximum uptime. The system enables firmware updates via the cell connection so your system's performance will continuously be optimized remotely.
- Maintenance is made easy by alerts sent to your phone.
- Diagnostic alerts are sent to you and your dealer when attention is required.

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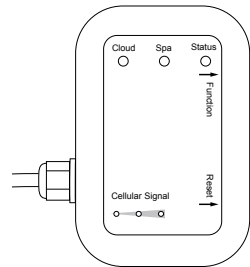
A. Pairing process

1. Download the SmartTub® app from the Google Play store or Apple App store.
2. Open the app and create an account.
3. Locate the SmartTub® sticker next the control panel of the hot tub. You can either scan the QR code with the SmartTub® app or manually input the serial number located below the QR code on the sticker.
4. After you pair the hot tub's serial number to the SmartTub® app, the app will load and connect the hot tub to the internet.
5. Follow the instructions on the app to begin enjoying the benefits of your internet connected hot tub.

Note: Six months of data service is included. You will need to renew the subscription after the six months. Please refer to the terms of service and privacy policy links in the SmartTub® app for additional information.

B. Indicator Lights

There are indicator lights on the SmartTub® controller that relay the status of the system. Below are meanings of the lights.




1. Cloud:
 - Blue light on - connected to cloud.
 - Blue light off - not connected to cloud.
2. Spa:
 - Blue light on - connected to spa controller
 - Blue light off - not connected to spa controller
3. Status:
 - Cyan light - breathing (slow pulsing) indicates the status is good.
 - Cyan light - flashing indicates that the system is completing a connection to the cloud.
 - Green light - flashing indicates waiting for a connection to the cellular tower.
 - Dark blue light - flashing indicates a SIM error.
4. Cell signal strength:
 - 3 blue LED lights indicate cell signal strength.

C. Resetting the SmartTub® controller

Should the SmartTub® controller need to be reset, hold a magnet to the reset label on the side of the SmartTub device.

11.0 Programming Instructions

Your spa is equipped with menus that allow you to program and activate different components of the spa. With our control panel, programming your spa has never been easier. From the Home Menu, tap  to enter the Settings Menu, Figures A and B. Scroll up and down through the Settings Menu to see all options.

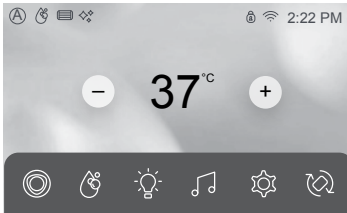


Figure A

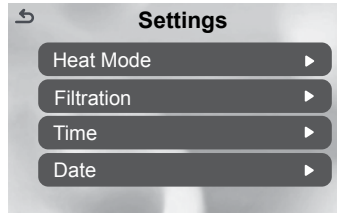


Figure B

Heat: Provides access to the heating programming, page 36.

Filtration: Provides access to the filtration programming, page 37.

Time: Provides access to the time programming, page 39.

Date: Provides access to the date programming, page 39.

Water Care: Provides access to the water care programming, page 40.

Lock: Provides access to activate the locking features, page 42.

Units: Provides access to the temperature and time display feature, page 44.

Language: Provides access to the language selection, page 44.

Panel: Provides access to the sleep and wake programming of the control panel, page 44.

Diagnostic: Provides access to the hot tub information, page 45.



= **Back Button:** Tap to go back to the previous Menu.

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11.1 Programming the Heat Settings

Your spa is equipped with 3 modes of heating. An automatic mode called “Auto” where the spa’s temperature is always maintained. An energy saving heating cycle called “Economy.” A mode that will only activate the heater during the daytime called “Day” mode.

Note: The heater will activate when the temperature drops 2°F (1°C) from the set temperature.

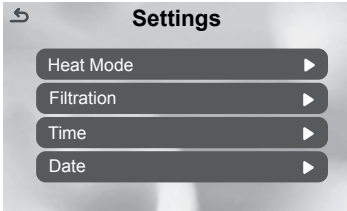


Figure A

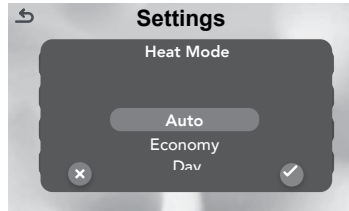




Figure B

Heat Mode:

From the Settings Menu (Figure A), tap  to enter the Heat Settings submenu, Figure B. Then scroll to select one of the heating settings, Figure C.

A. Auto heating:

1. When programmed to Auto, the spa will maintain the water temperature to the set temperature. Heating will occur when necessary.
2. To select this mode, highlight the Auto tab and press the set button .

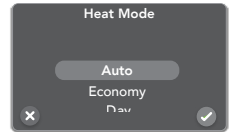




Figure C


B. Economy heating:

1. This is an energy saving heating program that allows the spa to heat during non-peak hours. When programmed to Economy, the spa will only be allowed to heat the water between 5:00 PM to 7:00 AM every day. The hours cannot be adjusted.
2. To select this mode, highlight the Economy tab and press the set button .

C. Day heating:

1. When programmed to Day, the spa will only be allowed to heat the water between 7:00 AM to 5:00 PM every day. The hours cannot be adjusted.
2. To select this mode, highlight the Day tab and press the set button .

11.2 Programming the Primary Filtration

To access the Filtration settings, tap  from the Settings menu, Figure A, to enter the Filtration programming, Figure B.

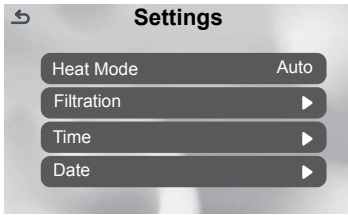


Figure A

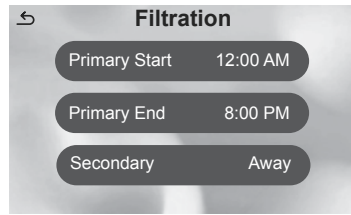


Figure B


During a primary filtration, the circulation pump and the ClearRay Active Oxygen® system are activated. The factory default cycle starts at 12:00 AM and lasts for 8 hours. If you elect to keep this setting, then you can skip this section.



In extreme bitter cold weather, where freezing can occur, we recommend you program the primary filtration cycle to run 24 hours. Refer to the “Winterizing” section on page 51.

A. To change the default cycle:

Tap  to enter the menu, Figure C.

Note: If  is pressed, in the middle of programming, it will clear the changes made and return to the prior programmed settings.

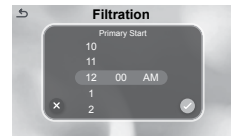






Figure C

1. Scroll through the first column to change the hour in 1-hour increments. You cannot adjust the minutes column.
2. To select AM or PM, you will need to round a 12-hour period.
3. Tap  to accept and save the change.
4. Tap  to program the end time for the cycle, Figure D.
5. Scroll through the first column to change the hour in 1-hour increments. You cannot adjust the minutes column.
6. To select AM or PM, you will need to round a 12-hour period.
7. Tap  to accept and save the change.
8. Tap  twice to return to the Main Menu.

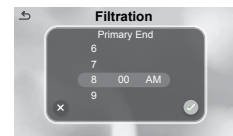


Figure D

Any time the circulation pump runs outside of a program cycle, e.g. for heating, that run time will be deducted from the next primary filter cycle. For example, the primary filter cycle is set to 8 hours every 24 hours, but the circulation pump comes on for 2 hours to heat the water after the cycle has finished. The next primary filter cycle will only be for 6 hours not 8 hours.

11.3 Programming the Secondary Filtration

The jets pump 1 activates during the secondary filtration, Figure A, to provide additional skimming. The spa is programmed with a default setting of Away Mode but can be programmed to other modes. There are 3 different modes, Away, Infrequent, and Frequent, Figure B.

Note: During the secondary filtration the jets pump 1, circulation pump and ClearRay Active Oxygen® system are activated.

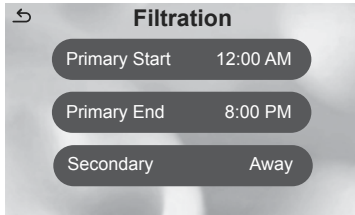


Figure A

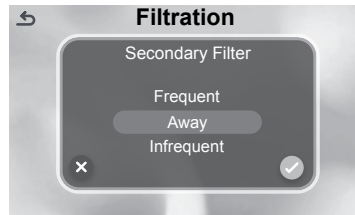


Figure B

- Away Mode disables the Secondary Filtration.
- Infrequent Mode will activate two 10-minute cycles **every other day**; one at 8:00 AM and the other at 8:00 PM.
- Frequent Mode will activate two 10-minute cycles **every day**; one at 8:00 AM and the other at 8:00 PM.

A. Secondary Filtration Cycle Menu

To change the programmed Secondary Filtration Cycle:

1. Press to enter the Options Menu, Figure B.
2. Scroll through the 3 different modes Away, Infrequent, and Frequent.
3. Once a selection is made, press to confirm and activate the setting. The system will return to the previous menu.
4. Tap twice to return to the Main Menu.

Note: If is pressed it will clear the changes made and return to the prior programmed settings.

11.4 Programming the Time

From the Settings Menu, tap  to enter the programming options, Figures A and B.

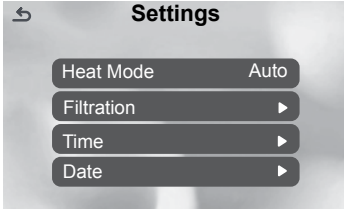


Figure A

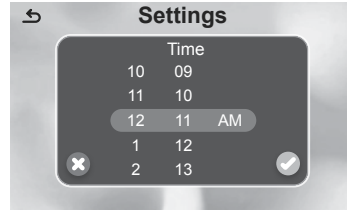




Figure B

A. To set the time (Figure B):

The default time setting is a 12-hour configuration. To choose the 24-hour configuration see page 44.

1. Scroll through the first column to change the hour in 1-hour increments.
2. Scroll through the second column to adjust the minutes.
3. To select AM or PM, you will need to round a 12-hour period.
4. Tap  to accept and save the change.
5. Tap  to return to the Main Menu.

11.5 Programming the Date

From the Settings Menu, tap  to enter the programming options, Figures A and B.

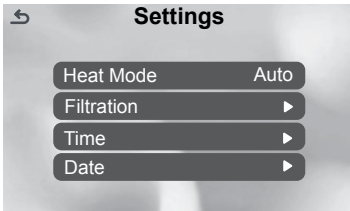


Figure A

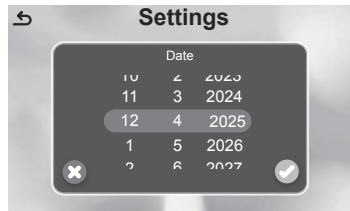




Figure B

A. To set the date (Figure B):

1. Scroll through the first column to set the month.
2. Scroll through the second column to set the day.
3. Scroll through the third column to set the year.
4. Tap  to accept and save the change.
5. Tap  to return to the Main Menu.

11.6 Water Care Programming

Water care is crucial to maintaining a clean spa. The ClearRay Active Oxygen® system leads the way to a clean* spa by using a UV light bulb and ozone. Your spa can be programmed to remind you when to check and replace certain components.

From the Settings Menu, tap  to enter the Water Care Menu, Figures A and B. Then select one of the features.

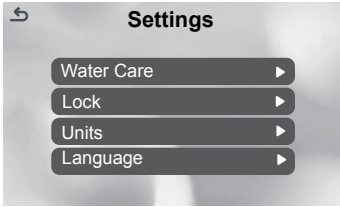


Figure A

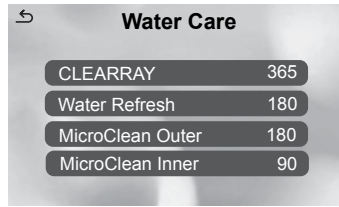
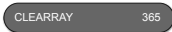


Figure B

A. Programming the ClearRay UV Bulb Timer


The ClearRay UV bulb has a life expectancy of 1 year. A timer activates when power is applied and begins a countdown starting at 365 days. Once the timer expires, a reminder message will appear on the display, the UV bulb must be replaced, and the timer needs to be reset. Tap  to enter the Programming Menu.


Note:

- The days are stored in memory if the power is interrupted.
- The ClearRay UV timer counts down by days not usage.

1. From the Water Care Menu, you can set the ClearRay UV bulb timer, Figure C.
2. Scroll through the column to change the days in 10-day increments. The range is from OFF (- - -) to 365 days. It is not recommended that this feature be turned OFF. In order to continually have the ClearRay system effectively perform its function, Figure C it should be program as instructed.




Note: Pressing  will clear current changes made. The days will return to the previous programmed setting. This feature can be used to make corrections.

3. Tap  to accept and save the change. The display will return to the Water Care Menu.

*Clean is defined as the removal of microscopic (to 30 µm level) debris from the water. Ozone aids in the grouping of small debris. Once combined, the debris can be more easily caught by the filtration process.

4. Tap ↶ twice to return to the Main Menu.
5. When the timer expires, a message will appear on the control panel display. The ClearRay UV bulb **must be replaced** (page 40) and the timer must be reset. Tap ⌚ and follow the instructions above to reset the timer. If you tap ⌚ the message will clear but the reminder icon ⚠ will display and the message will reappear in 10 days.

B. Programming the Water Refresh Timer

A programmable Water Refresh reminder can be set to remind you when to drain and refill the spa. Tap  (Figure B) to enter the Programming Menu.

1. From the Water Care Menu, you can set the Water Refresh timer, Figure D.
2. Scroll through the column to change the days in 30-day increments. The range is from OFF (- - -) to 180 days. It is not recommended that this feature be turned OFF. In order to continually maintain the water healthy and clean, in addition to chemical maintenance, it should be program as instructed.

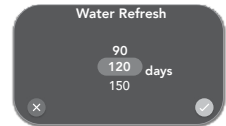




Figure D

Note: Pressing  will clear current changes made. The days will return to the previous programmed setting. This feature can be used to make corrections.

3. Tap  to accept and save the change. The display will return to the Water Care Menu.
4. Tap ↶ twice to return to the Main Menu.
5. When the timer expires, a message will appear on the control panel display. The water must be drained and replaced with fresh water. Tap ⌚ and follow the instructions above to reset the timer. If you tap ⌚ the message will clear but the reminder icon ⚠ will display and the message will reappear in 10 days.


C. Programming the MicroClean® Outer Timer


A programmable filter timer can be set to remind you when to clean or replace the filters. Tap  (Figure B) to enter the Programming Menu.

1. From the Water Care Menu, you can set the Filter timer, Figure E.
2. Scroll through the column to change the days in 10-day increments. The range is from OFF (- - -) to 180 days. It is not recommended that this feature be turned OFF. In order to continually maintain clean and working filters, it should be program as instructed.



Figure E

Note: Pressing  will clear current changes made. The days will return to the previous programmed setting. This feature can be used to make corrections.

3. Tap  to accept and save the change. The display will return to the Water Care Menu.

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- 4. Tap ↶ twice to return to the Main Menu.
- 5. When the timer expires, a message will appear on the control panel display. The filter must be cleaned or replaced. Tap ⌛ and follow the instructions above to reset the timer. If you tap ⌚ the message will clear but the reminder icon ⚠ will display, and the message will reappear in 10 days.

D. Programming the MicroClean® Inner Filter Timer

A programmable filter timer can be set to remind you when to replace the MicroClean Inner Filter. Tap  (Figure B) to enter the Programming Menu.

- 1. From the Water Care Menu you can set the MicroClean Inner timer, Figure F.
- 2. Scroll through the column to change the days in 10-day increments. The range is from OFF (- - -) to 90 days. It is not recommended that this feature be turned OFF. In order to continually maintain clean and working filters, it should be program as instructed.





Figure F

Note: Pressing X will clear current changes made. The days will revert to the previous programmed setting. This feature can be used to make corrections.

- 3. Tap ✓ to accept and save the change. The display will revert to the Water Care Menu.
- 4. Tap ↶ to return to the Water Care Menu. Tap again to return to the Settings Menu.
- 5. When the timer expires, a message will appear on the control panel display. The filter must be replaced. Tap ⌛ and follow the instructions above to reset the timer. If you tap ⌚ the message will clear but the reminder icon ⚠ will display and the message will reappear in 10 days.

11.7 Locking the Spa

From the Settings Menu (Figure A), tap  to enter the programming options, Figure B. You can prevent users from changing certain features of the spa. When a lock feature is active, the lock icon  will appear on the Main Menu.

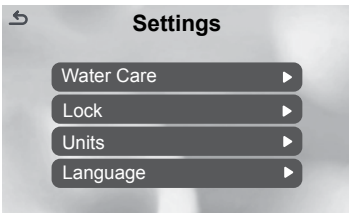


Figure A

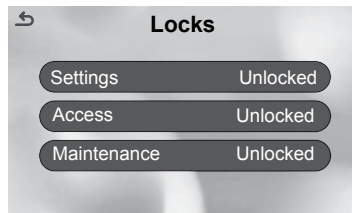





Figure B

A. Settings Lock (Figure C):

1. Tap  to enter the lock feature.
2. Scroll through each column to select a number. Then move on to the next number until a four-digit code has been selected.
3. Tap  to accept and save the change. The display will return to the Locks Menu.
4. The Settings Menu and all its functions are disabled, but the spa will still perform all scheduled tasks.
5. Tap  twice to return to the Main Menu.

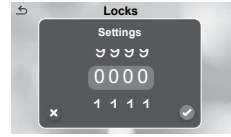





Figure C

B. Access Lock (Figure D):

1. Tap  to enter the lock feature.
2. Scroll through each column to select a number. Then move on to the next number until a four-digit code has been selected.
3. Tap  to accept and save the change. The display will return to the Locks Menu.
4. All activation and adjustment features are disabled but the spa will still perform all scheduled tasks.
5. Tap  twice to return to the Main Menu.

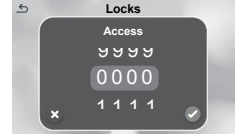
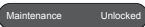




Figure D

C. Maintenance Lock (Figure E):

1. Tap  to enter the lock feature.
2. Scroll through each column to select a number. Then move on to the next number until a four-digit code has been selected.
3. Tap  to accept and save the change. The display will return to the Locks Menu.
4. All spa functions are locked to allow for a temporary service mode such as filter cleaning.
5. Tap  twice to return to the Main Menu.

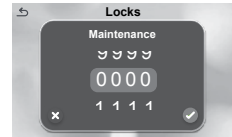




Figure E

Note: This mode has a time out of 2 hours. The spa should not be left in this lock mode for an extended period. Especially in colder climate or when freezing conditions exist.

D. To Unlock (Figure F):

1. Enter the Lock menu. Select the tab for the features to unlock: settings, access or maintenance.
2. Scroll through each column to select a number. Then move on to the next number until a four-digit code has been entered.
3. Tap  to accept the code. The display will return to the Locks Menu.
4. Tap  twice to return to the Main Menu.

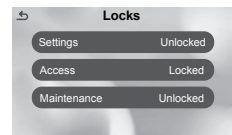



Figure F

Note: A default passcode can be used in case the original passcode is lost or forgotten. The code "0772" will unlock the locked setting.

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11.8 Unit Display

From the Settings Menu (Figure A), tap  to enter the selection options, Figure B.

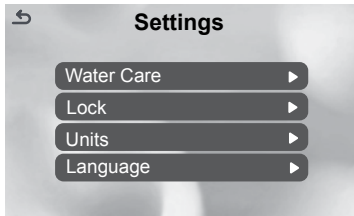


Figure A

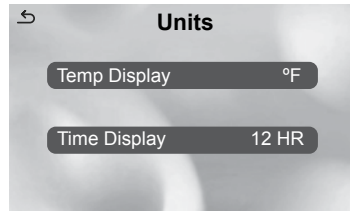






Figure B

1. Tap  to switch between °F or °C.
2. Tap  to switch between 12-HR or 24-HR format.
3. Tap  twice to return to the Main Menu.

11.9 Programming the Language

From the Settings Menu (Figure A), tap  to enter the selection options, Figure B.

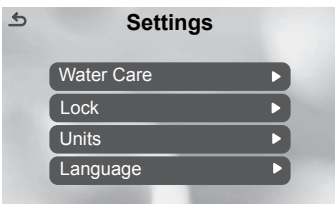


Figure A

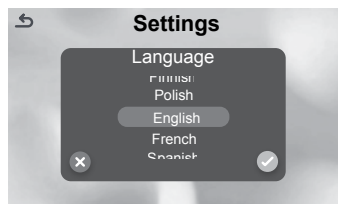




Figure B

1. There are 10 languages to select from: English, French, Spanish, German, Italian, Czech, Swedish, Norwegian, Finnish, and Polish.
2. To select a language, scroll through and select the language you want to display.
3. Tap  twice to return to the Main Menu.

11.10 Programming the Panel

From the Settings Menu (Figure A), tap  to enter the selection options, Figure B.

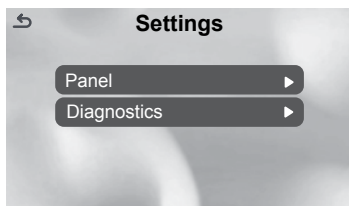


Figure A

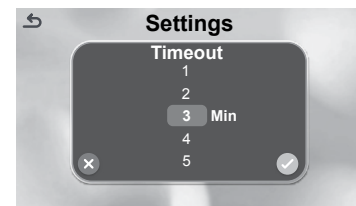


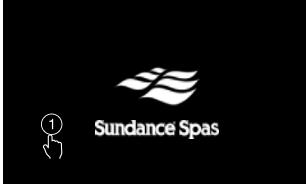



Figure B

1. Program how long the display stays active before going to sleep. Scroll through and select the number of minutes. The range is one to five minutes.
2. Tap  to accept the change. The display will return to the Settings Menu.
3. Tap  to return to the Main Menu.
4. To wake the display, tap the screen. The menu below will appear. Press the one then press the two.



11.11 Diagnostic Menu

From the Settings Menu (Figure A), tap  to enter the selection options, Figure B.

Note: Most of the information provided in this menu is to assist a qualified technician troubleshoot the system.

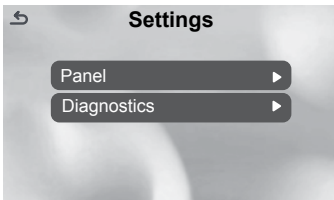


Figure A

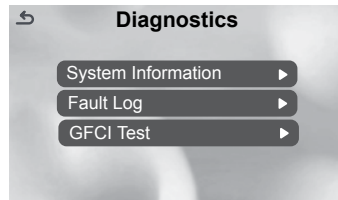




Figure B

1. **System Information:** Displays various system information about the hot tub. This information is helpful when servicing the hot tub.
2. **Faults:** Displays any faults detected by the hot tub. It will store up to 50 fault settings.
3. **GFCI Test:** It will perform a test for the GFCI breaker.

A. GFCI Test:

1. Tap  to enter the feature, Figure C.
2. Tap  to test the GFCI, Figure D.
3. The test will begin, Figure E.
4. The result will return either a pass or fail message.

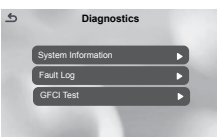


Figure C



Figure D

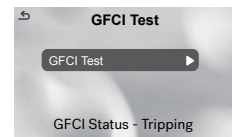


Figure E

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11.12 Polling

Polling is the process of checking the water temperature by turning on the circulation pump for 1 minute so the sensors can detect the temperature. This feature will run every 30 minutes, if the circulation pump has not been activated. If the feature does not sense a need to heat the water, the next cycle will be extended by 30 minutes up until 120 minutes is reached.

Note: The cycle time will reset to 30 minutes any time a heat call is made or if a button on the control panel is pressed. Polling does not occur during an automated or programmed feature.

12.0 Spa Maintenance

Proper and regular maintenance of your spa will help it retain its beauty and performance. Your authorized Sundance dealer can supply you with all the information, supplies and accessory products you will need to accomplish this.



DANGER: RISK OF SEVERE INJURY OR DROWNING BY ENTRAPMENT!

- Keep hair, loose articles of clothing or hanging jewelry away from suction fittings, rotating jets or other moving components to avoid entrapment that could lead to drowning or severe injury.
- Never use the spa unless all suction guards, filter, filter lid, or skimmer assembly are installed to prevent body and/or hair entrapment.
- Never operate or use the spa if the filter, filter lid, or skimmer assembly are broken or any part of the skimmer assembly is missing. Please contact your dealer or nearest service center for service.
- The suction fittings and suction covers in this spa are sized to match the specific water flow created by the pump(s). If it is necessary to replace the suction fittings, suction covers or pump(s), be sure that the flow rates are compatible and are in compliance with the VGB Safety Act page 2.
- Never replace a suction fitting or suction cover with one rated less than the flow rate marked on the original suction fitting. Using improper suction fittings or suction covers can create a body or hair suction entrapment hazard that may lead to drowning or severe injury.
- Owners must alert all spa users to the potential risk of Hair, Limb, Body, Evisceration (disembowelment), and Mechanical Entrapment, page 6.

12.1 Cleaning The Filter

Your new spa is equipped with an exclusive MicroClean® 2-stage filter cartridge located under the filter lid. Fine debris are filtered by the circulation pump drawing water through the ultra-fine (stage 2) cartridge. Larger debris are filtered by the main 2-speed pump drawing water through the (stage 1) polyester mesh (pleated) cartridge during normal operation and during each filtration/heating cycle. Combined, both filter halves work together to give you unsurpassed water quality by trapping suspended particles on their outer surface.

Note: To ensure optimum performance, clean and reuse the stage 1 cartridge once a month and replace the stage 2 cartridge every 3 months, or as needed.

⚠ DANGER: TURN POWER TO SPA OFF! TO DECREASE RISK OF DEATH, DROWNING, OR ENTRAPMENT, NEVER OPERATE SPA WHEN TO DECREASE RISK OF DEATH, DROWNING, OR ENTRAPMENT, ALWAYS TURN POWER TO THE HOT TUB OFF BEFORE REMOVING THE MICROCLEAN ULTRA II LITE FILTER ASSEMBLY!

Filter Cleaning/Replacement Procedure:

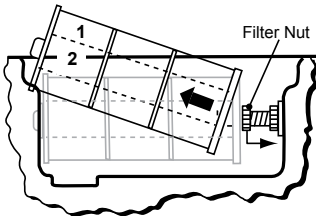
1



DANGER: TURN POWER TO SPA OFF! TO DECREASE RISK OF DEATH, DROWNING, OR ENTRAPMENT, NEVER OPERATE SPA WHEN FILTER IS NOT PROPERLY INSTALLED OR IF WEIR ASSEMBLY IS DAMAGED OR ALTERED!



2



Filter Cleaning Requirements:

- Clean MicroClean Ultra II Lite Pleated Filter (1) monthly and replace every 18 months.
- Rinse off MicroClean Ultra II Lite Insert (2) monthly and replace every 6 months or as needed.

Filter Removal Instructions:

Loosen filter nut to provide clearance, then remove MicroClean Ultra II Lite Filter Assembly from spa.

3

Monthly Filter Cleaning Procedure

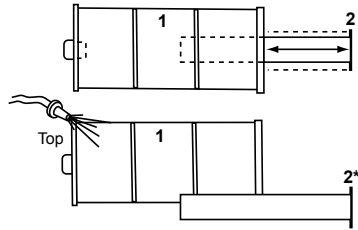
We recommend cleaning the outer pleated filter (1) with a high-pressure water nozzle and the filter insert (2) with a low-pressure water nozzle monthly. Periodically, the outer pleated filter cartridge (1) will require a more thorough cleaning to remove embedded oils and minerals by using special spa filter cleaners offered by your spa dealer. Always remove the center filter insert (2) before cleaning the outer filter (1) with chemicals. Never use filter cleaners of any kind on the filter insert (2) or it may be damaged, come apart or allow

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impurities to re-enter the water, increasing the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments.

Procedure:

1. Grasp center filter insert end cap (2) in hand and pull outward from pleated cartridge (1). If filter insert (2) is 6 months old, throw it away and purchase new one. **DO NOT** install new insert at this time.
2. Rinse debris from all outer filter (1) pleats using a garden hose and high-pressure nozzle. Repeat process until all filter pleats are clean. Then rinse debris from inside of filter (1). If chemical cleaners are used, follow manufacturer's instructions.
Lightly rise filter insert (2) and place in clean location. ***DO NOT** use chemical cleaners or high-pressure nozzle on insert (2) or it may be damaged, come apart or allow impurities to re-enter the water, increasing the risk of contracting a waterborne illness (e.g. an infection bacteria or virus) and/or respiratory ailments.
3. Install filter insert (2) into outer pleated filter (1) by gently sliding inward until a slight resistance is felt approximately 1/4" from bottom. Lightly tap insert end with palm of hand to "snap" in place. Insert is properly installed when end cap rests "flush" against outer filter end cap.
4. Install Filter assembly back into spa by performing step 2 in reverse order. Tighten filter nut so it just touches the filter face. **DO NOT OVERTIGHTEN!**
5. Turn power to spa back on.



Replacement filter cartridges may be purchased from your Sundance Spas dealer.

CAUTION: RISK OF PRODUCT DAMAGE!

- Never let the spa pump run or have a filter cycle come on without a filter cartridge in the skimmer compartment. Running the spa without a filter cartridge may permit debris to enter the spa plumbing and void the warranty!

12.2 Draining And Refilling

About every 3 months, you will want to replace the spa's water. The frequency depends on a number of variables including the amount of use and attention paid to water quality maintenance. You will know it is time for a change when you cannot control sudsing and/or you can no longer get the normal feel or sparkle to the water even though the key water balance measurements are all within the proper parameters.



CAUTION! READ THIS BEFORE DRAINING: To prevent damage to the spa's components, turn off power to the spa at the circuit breaker before draining it. Do not turn the power back on until your spa has been refilled. There are certain precautions to keep in mind when draining your spa. If it is extremely cold, and the spa is outdoors, freezing could occur in the lines or the equipment (see "Winterizing", Section 11.7 page 51). On the other hand, if it is hot outdoors, do not leave the spa's surface exposed to direct sunlight for long periods.

Draining Procedures:

1. Turn off power to spa at breaker.
2. Locate and remove the front synthetic cabinet door (page 53). The door is located directly below the control panel.
3. Locate drain hose line attached to the 2 x 4 wood slat, Figure A.
4. Pull drain hose from equipment area, Figure B.
5. Hold drain hose above water line, then unthread drain cap (1) from hose using a counterclockwise rotation. Place hose on ground making sure to direct water away from spa.
6. After spa has completely drained, reinstall drain cap on drain valve finger tight! **DO NOT OVERTIGHTEN!**
7. Place drain hose back inside the spa equipment bay.
8. Reinstall synthetic cabinet door.
9. After refilling spa, turn on power and follow the "Spa Fill Up Procedure" (page 18).



Figure A



Figure B

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12.3 Pillow Care

Remove and clean the headrest pillows as needed with soapy water using a cloth or soft-bristle brush. Always remove the pillows when adding chemical shock treatment to the spa water. The pillows can be returned to the spa when the sanitizer reading is stable as recommended on the inside cover of the manual.

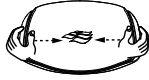
Pillow Removal/Cleaning Procedure

1



Place both hands on pillow with thumbs as shown.

2



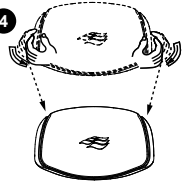
Press inward with thumbs to curl pillow lip inward so you can grab it with fingertips.

3



Flex pillow lip inward 2-3" to get a good grip on the ends.

4



Gently pull outward on pillow to release mounting stud from receptacle on spa shell.

5

Wash pillow(s) in a mild detergent soap and warm water solution. Never machine wash your pillows or attempt to clean them with a non-approved vinyl cleaning agent!

6

To reinstall pillows: Simply align pillow over mounting stud receptacle, then gently push inward to snap in place.

12.4 Cleaning The Spa Interior

To preserve the sheen of your spa's surface, it is crucial that you avoid using abrasive cleaners or cleaners which have adverse chemical effect on the surface. If you are not certain as to the suitability of a particular cleanser, consult your authorized Sundance dealer. Regardless of the cleanser used, use extreme care to assure that no soap residue is left on the surface. This could cause severe sudsing when the spa is refilled.

12.5 Cover Care And Maintenance

Using the Sundance insulating spa cover anytime the spa is not in use will significantly reduce your operating costs, heat-up time and maintenance requirements. To prolong the life of the cover, handle it with care and clean it regularly. Below are the care instructions.

Note: It is highly recommended that you DO NOT put the seam over the control panel. This will cause premature failure of the control system. Except for the Dover Model.

A. To Clean the Cover

1. Use a garden hose to loosen debris and dirt.
2. Using a large sponge or a soft bristle brush, use diluted or mild soap and scrub the top. Rinse clean and do not allow soap to dry on cover. Do not use soap on the underside of the cover.
3. Please check with your Sundance Spa Dealer for recommended cover care and conditioning products. Do not use solvents, abrasive cleaners or strong detergents. Do not use products that contain silicone or alcohol.

B. Additional Care and Maintenance Instructions:

1. Debris can accumulate on the spa cover. Removal of snow or other debris will help to avoid breakage of the foam cores.
2. Be sure to lock the cover straps to secure the cover from unwanted or accidental entry.
3. Do not place heavy objects on the cover.
4. Do not walk, sit or stand on the cover.
5. Do not drag or use the flaps/skirt or the cover lock straps to remove the cover.
6. Use only recommended cover lift systems.
7. Use only chemicals and cleaners recommended by Sundance Spas.
8. Remember to keep spa covered when not in use. Maintaining proper water levels assures efficient operation and efficient electrical usage.
9. Do not expose your spa to the sun for extended periods of time as UV rays can damage the interior surface.
10. Use caution when removing cover. Before removing cover, assure all locks have been released to avoid lock breakage and or cover strap damage.

12.6 Maintaining The Synthetic Cabinet

Your new spa's synthetic cabinet requires little or no maintenance of any kind. To clean, simply wipe cabinet with a clean towel and mild soap solution.



CAUTION: Never spray cabinet with a garden hose for any reason since this action may induce an electrical short in the spa's electrical equipment.

12.7 Winterizing

Your Sundance spa is designed to automatically protect itself against freezing when operating properly. During periods of severe freezing temperatures, you should check periodically to be certain that the electrical supply to the spa has not been interrupted. **In extreme, bitter cold weather, less than 32°F (0°C), program the primary filtration cycle to run for 24 hours to prevent freezing (page 37).**



If you do not intend to use your spa, or if there is a prolonged power outage during periods of severe freezing temperatures, **it is important that all water be removed from the spa and equipment to protect against damage from freezing.**

Expert winterization of your spa is highly recommended, contact your authorized Sundance dealer. In emergency situations, damage can be minimized by taking the following steps:

CAUTION: TURN OFF POWER TO HOT TUB!

1. Follow the directions on page 49 for draining the spa.
2. Turn the massage/diverter selector(s) into the middle combo position to allow the water in the plumbing lines to drain (page 32).

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3. Turn the waterfall valve(s) to the open position to allow the water in the plumbing lines to drain (page 33).
4. As the water level drops below the seats, use whatever means necessary to get the water out of the recessed seating areas and into the footwell, such as a wet/dry vacuum.
5. Open all the air controls and leave them open until you resume use of the spa, page 32.
6. When the water level ceases to drop, use whatever means available to remove any remaining water from the footwell, such as a wet/dry vacuum.
7. Remove the equipment-side cabinet panel(s) and locate the drain plugs in the front of the pump(s) (Figure B, page 16). Remove these plugs to allow the water to drain out of the pumps and heater.

Note: Approximately one to two gallons will be released during this procedure. Use a wet/dry vacuum or other means to keep this from flooding the equipment compartment. Replace the drain plugs.

8. Loosen the hose clamp on the circulation pump intake behind the control box (Figure B, page 16) and pull the hose off (twist hose back and forth while pulling outward). Tip hose down and allow to drain, then reinstall hose and clamp.
9. Loosen hose clamp at bottom of ClearRay® unit and pull hose off of ClearRay fitting (twist the hose back and forth while pulling downward). Tip hose down and allow to drain, then reinstall hose and clamp. Remove the cover of the ClearRay unit to access the UV bulb and quartz tube. Remove and store the UV bulb in a safe location. Remove and dry off the quartz tube then reinstall it. Depending on the length of time, consider replacing the UV bulb when you resume use of your hot tub.
10. Re-install cabinet panel(s) and cover hot tub so that no casual moisture can enter into it.

Consult your authorized Sundance dealer if you have any questions regarding winter use or winterizing.

12.8 Restarting Your Spa in Cold Weather

If you want to start up your spa after it has sat empty for a time in freezing temperatures, be aware that the water remaining in certain sections of the piping may still be frozen. This situation will block water flow preventing the spa from operating properly and possibly damaging the equipment. We recommend you consult your dealer for guidance before attempting to re-start your spa under these conditions.

Note: To avoid any injuries, more than one individual must perform the steps to remove the cabinet panel.

12.9 Removing the Panels

To remove the skirt panels follow the steps below:

- Grab one of the corner panels, from the bottom, where it touches the bottom pan. Then gently pull the panel forward to unsnap it from the holding clip then pull down to remove, Figure A. Place the panel in a safe location to prevent from damaging it. Repeat the steps to remove the other corner panel.
- Grab the bottom of the front panel and slightly lift to release it from the top mount. Tilt the panel and pull down to remove. Before completely removing the panel, take hold of the indicator light wire and gently pull on it to slide the light from the housing. The exterior lights on the front panel are connected to the light wires. Slide the light out of housing to disconnect. Place the panel in a safe location to prevent from damaging it.
- To reinstall the panel just follow the steps above in reverse order.

Note: Exposure of the cabinet to heat could cause the cabinet to warp. Should the cabinet warp, once it is installed, the warping is not visible. However, it does make the removal and replacement a little more challenging.

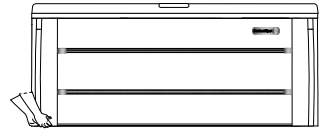


Figure A

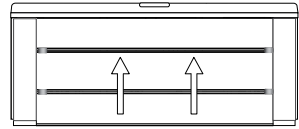
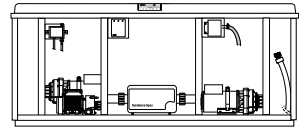


Figure B



13.0 Water Quality Maintenance

To decrease the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments, maintain water quality within specified limits. This will enhance your enjoyment and prolong the life of the hot tub's equipment. Doing so requires regular attention because the water chemistry involved is a balance of several factors. Procrastination in regard to water maintenance will result in poor and potentially unhealthy conditions for soaking and even damage to your hot tub investment. For specific guidance on maintaining water quality, consult your Authorized Sundance Spas dealer who can recommend appropriate chemical products for sanitizing and maintaining your hot tub.



WARNING: FAILURE TO MAINTAIN WATER QUALITY WILL:

- Increase risk of contracting a waterborne illness (e.g. an infection bacteria or virus) and/or respiratory ailments.
- Damage the equipment, components and spa shell, which are not covered under the hot tub's warranty.

CAUTION: Never store hot tub chemicals inside the hot tub's equipment bay. The equipment bay may reach elevated temperatures, this is where high voltage electronic devices are located. This area is not intended for storage of any kind.

13.1 pH Control

pH is a measure of relative acidity or alkalinity of water and is measured on a scale of 0 to 14. The midpoint of 7 is said to be neutral, above which is alkaline and below which is acidic. In spa water, it is very important to maintain a slightly alkaline condition of 7.4 to 7.6 pH. Problems become proportionately severe the further outside of this range the water gets. A low pH will be corrosive to metals in the spa equipment. A high pH will cause minerals to deposit on the interior surface (scaling). In addition, the ability of the sanitation agents to keep the spa clean is severely affected as the pH moves beyond the ideal range. That is why almost all spa water test kits contain a measure for pH as well as sanitizer.

13.2 Sanitizing

To destroy bacteria and organic compounds in the spa water, a sanitizer must be used regularly. Chlorine and bromine are the two most popular sanitizers used to date. SunPurity™ mineral cartridge designed specifically for your hot tub. Many other additives are available for your spa. Some are necessary to compensate for out-of-balance water; some aid in cosmetic water treatment and others simply alter the feel or smell of the water. Your authorized Sundance dealer can advise you on the use of these additives. When adding spa shock (chlorine or non-chlorine) or pH balancing chemicals activate the jets pump(s) and leave the spa cover open for a minimum of 20 minutes. By doing this you will allow excessive chemical vapors to exit the spa, protecting pillows and plastic knobs from chemical attack.



WARNING: RISK OF PERSONAL INJURY, DROWNING OR ENTRAPMENT!

Never leave your hot tub unattended for any reason while the cover is open and accessible, especially to small children and animals!

CAUTION: RISK OF PERSONAL INJURY OR SPA DAMAGE!

Never add chlorine tablets (trichlor) or acid to your hot tub for any reason! These chemicals may damage components within your hot tub, burn or irritate your skin, create a rash, and void the manufacturer warranty for your spa.

13.3 ClearRay Active Oxygen® Water Purification System

Your new hot tub has the ClearRay Active Oxygen® System installed. The ClearRay Active Oxygen® System is an exclusive technology utilizing ultraviolet light and ozone technology to help keep your water clean*. The ballast is the power supply for the ClearRay Active Oxygen® System; it has two LED indicator lights, the green indicating incoming power flow and the red indicating the system is properly working. ClearRay Active Oxygen® is standard for all models.



After a year the bulb must be replaced. A message will appear on the LCD display when the time allotted has expired. In order to clear the message, a new UV bulb needs to be installed and the timer must be reset (Section 11.6, page 40).



WARNINGS:

- Do not operate the UV-C emitter when it is removed from the appliance enclosure.
- This appliance contains a UV-C emitter.
- Unintended use of the appliance or damage to the housing may result in the escape of dangerous UV-C radiation. UV-C radiation may, even in little doses, cause harm to the eyes and skin.
- Appliances that are obviously damaged must not be operated.
- Read the maintenance instructions before opening the appliance.

13.4 ClearRay® Bulb Replacement and Quartz Tube Maintenance

Important: It is **MANDATORY** that the UV bulb is replaced and the quartz tube be cleaned every 12 months to maintain optimum performance.

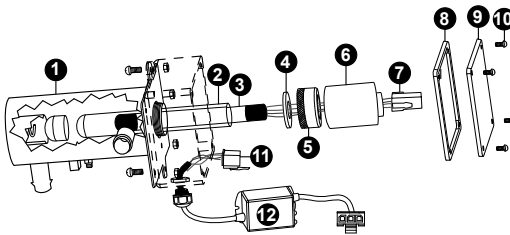


FIGURE 1



DANGER: TURN THE SPA BREAKER TO THE OFF POSITION!



DANGER: DRAIN THE SPA IF YOU ARE REPLACING OR CLEANING THE QUARTZ TUBE!

*Clean is defined as the removal of microscopic (to 30 µm level) debris from the water. Ozone aids in the grouping of small debris. Once combined, the debris can be more easily caught by the filtration process.



WARNING: ALLOW LAMP TO COOL DOWN PRIOR TO REMOVING FROM QUARTZ TUBE.



DANGER: NEVER LOOK AT THE LIT BULB. THIS CAN CAUSE SEVERE EYE DAMAGE OR BLINDNESS.

UV bulb replacement and quartz tube maintenance:

Note: Location of ClearRay System and connection may vary by model.

1. Turn the breaker to the spa OFF. DRAIN YOUR SPA.

Note: If you are only replacing the UV bulb then the spa does not have to be drained. You will need to drain it if you are replacing or cleaning the quartz tube.

2. Once the UV bulb has cooled off remove the ClearRay System enclosure cover (9) and gasket (8) by removing the four screws (10). This will expose the UV bulb and connections, Figure 2.

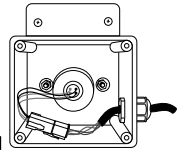


FIGURE 2



DANGER: NEVER REMOVE COVER WITHOUT FIRST TURNING OFF AT POWER SOURCE AND DRAINING THE SPA.

FIGURE 3

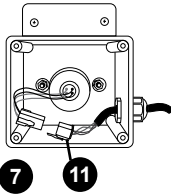


FIGURE 4

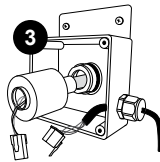


FIGURE 5

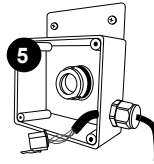
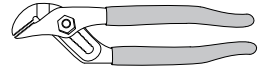


FIGURE 6



3. Disconnect UV bulb socket (7) from the power cord socket (11), Figure 3.

4. Slowly remove the UV bulb (3) out of the quartz tube, Figure 4.

5. Remove the quartz seal compression nut (5) by turning it **counterclockwise**, Figure 5. Use a pair of channel-lock pliers if needed, Figure 6. You will notice that there is a stainless steel compression washer (4) which slides over the quartz tube, save the washer (4) for later use, Figure 7.

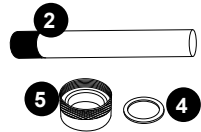


FIGURE 7

6. Now you are ready to clean or replace the quartz tube (2). For cleaning the quartz tube (2), follow steps 7 and 8 then proceed to step 9. For replacing quartz tube (2), skip steps 7 and 8 and proceed from step 9.

7. **Cleaning quartz tube:** Clean the quartz tube by wiping, until clear, using a paper towel or a dry cotton cloth. If needed, a household tub and shower lime removal product can be used.



WARNING: Do not use abrasive cleaners as they can scratch the quartz tube surface.

8. Rinse the quartz tube with clean water to completely remove any cleaning products that were used in step 7.
9. **Replacing quartz tube:** You will notice that the new quartz tube does not have a black cushion on the domed end as the old quartz tube does. This is normal as the cushion was provided with the original quartz tube to protect it from breakage during transportation. Place the new quartz tube (2) into the water chamber (1) with the domed end first making sure it is inserted and seated inside the quartz end holder. Only a small portion will be exposed when it is seated correctly.
10. Reinstall the compression washer (4) over the open end of the quartz tube (2).
11. Reinstall and hand tighten the quartz seal compression nut (5) by turning it **clockwise**.
12. Refill your spa.
13. **System Test 1:** Assure there is no water dripping from the seal compression nut (5). If water is visible, STOP and tighten the compression nut (5) using a pair of channel lock pliers to a maximum of 1/4 turn. If that does not fix the leak, then repeat quartz tube maintenance process from step 1 through step 12. Make sure there is no water leaking before proceeding to step 14.
14. **System Test 2:** Reconnect the ClearRay unit to the controller. Turn breaker back ON. Turn on the pump to circulate the water through the ClearRay Active Oxygen System. Wait for 5 minutes and assure no water is dripping. If water is visible, STOP, fix the leak by repeating quartz tube maintenance process from step 1 through step 13. **Make sure there is no water visible. Turn the pump and breaker OFF BEFORE proceeding to step 15.**
15. Reconnect the UV bulb socket (7) to the power cord socket (11) make sure you use the latex glove provided when handling the UV bulb.



WARNING: DO NOT TOUCH THE NEW UV BULB WITH YOUR BARE HAND. Oil on your skin will cause hot spot on the UV bulb and shorten the life of your UV bulb. Use the provided latex glove to handle the UV bulb.

16. Slide the new UV bulb (3) back inside the quartz tube.
17. Reinstall the black bulb boot (6) back over the quartz seal compression nut (5).
18. Reinstall the enclosure cover (9) with gasket (8) and secure with the screws.
19. Properly dispose of the old UV bulb.



WARNING: This ClearRay System includes a UV bulb, which contains mercury. Dispose of the bulb in accordance with disposal laws. See www.lamprecycle.org.

20. Once power is activated you can check the ballast (12), Figure 8, to see if the ClearRay Active Oxygen® System is functioning; it has two LED indicator lights the green indicating incoming power flow and the red indicating the system is properly working.



FIGURE 8

14.0 Error Conditions/Error Messages

There are a number of unique functions designed into your Sundance hot tub to protect it from damage and/or to aid in troubleshooting. The indicator light located on the front cabinet panel of the hot tub is an early detection system that will notify you when the hot tub needs immediate attention. A solid white light indicates that all operations are normal. A solid red light indicates that immediate attention is required to clear or fix an error code. Following is a listing of all the possible messages along with their meanings. **Always insist on genuine Sundance replacement parts.**



1. Freeze (Code 1): Possible freeze condition.
2. Sensor Balance Transient (Code 15): Sensors are out of sync.
3. Heat Low Flow (Code 16): The water flow is low.
4. Failed Flow (Code 17): The water flow has failed.
5. RTC Failure (Code 20): The clock has failed.
6. Persistent Memory Fail (Code 21): The settings have been reset.
7. Checksum Failure (Code 22): Program memory failure.
8. Config Error (Code 23): Configuration error. Contact your authorized dealer or service organization.
9. Sensor Balance Latch (Code 26): Sensor are out of sync. Contact your authorized dealer or service organization.
10. Heater Dry (Code 27): The heater is dry.
11. Heater Maybe Dry (Code 28): The heater maybe dry.
12. Spa Overheat (Code 29): **DO NOT ENTER THE WATER!** Spa water temperature above acceptable limits. Spa water is too hot.



**WARNING: RISK OF HYPERTHERMIA (OVER-HEATING)
CAUSING SEVERE INJURY, BURNS, OR WELTS.**

13. Heater Overheat (Code 30): **DO NOT ENTER THE WATER!** The heater is too hot.



**WARNING: RISK OF HYPERTHERMIA (OVER-HEATING)
CAUSING SEVERE INJURY, BURNS, OR WELTS.**

14. Sensor Fault A (Code 31): Sensor A fault. Contact your dealer or service organization.
15. Sensor Fault B (Code 32): Sensor B fault. Contact your dealer or service organization.
16. Stuck (Code 34): A pump may be stuck.
17. Hot (Code 35): Hot fault. Contact your authorized dealer or service organization.
18. GFCI Failure (Code 36): The GFCI test failed.
19. Rest Mode Temp (Code 38): Run Jets 1 to get temperature.
20. Beta Version (Code 39): Test software is installed.
21. Set Time (Code 40): Set the time.
22. J29 Shorted (Code 44): J29.
23. Lighting (Code 65): Lighting communication error. Check lights wiring.
24. Lighting (Code 67): Lighting fault.
25. Heatpump Comm Lost (Code 68): The Clim8zone has stopped communicating.
26. Heatpump Fault (Code 69): The Clim8zone reported an internal fault.
27. Heatpump Defrosting (Code 70): The Clim8zone is defrosting.
28. Heatpump Stuck On (Code 71): The Clim8zone did not turn off.
29. Heatpump Stuck Off (Code 72): The Clim8zone did not turn on.
30. Heatpump Flow Fault (Code 73): The Clim8zone reported a flow fault.
31. Heatpump Unexpected Shutoff (Code 74): The Clim8zone turned off.
32. Heater Authentication Error (Code 80): The heater authentication has failed. Could be caused by a bad chip on the heater or expander board.

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33. ClearRay Replacement Reminder: This message will appear when the ClearRay bulb reminder time has expired (Figure A). The ClearRay bulb must be replaced.



Figure A

34. MicroClean Outer Filter Reminder: This message will appear when the filter reminder time has expired (Figure B). Remove the MicroClean Outer filters for cleaning or replacement.



Figure B

35. MicroClean Inner Filter Reminder: This message will appear when the filter reminder time has expired (Figure C). The MicroClean Inner filter must be replaced.



Figure C

36. Water Refresh Reminder: This message will appear when the Water Refresh timer has expired (Figure D). The water needs to be drained and refilled with fresh water.

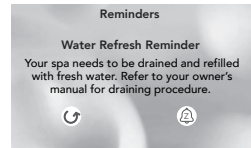


Figure D

37. Extended Temperature Activated: The spa is set to go up to 40°C (104°F), but it can be set to reach 41°C (106°F). To access the extended temperature, you need to set the temperature to 40°C (104°F). The press and hold your finger over the temperature reading for about 3 seconds. The temperature reading will turn white, and the degree icon will start flashing, Figure E. This indicates the system is ready. Tap (+) to raise the temperature up to 40.5°C (105°F), press again to reach 41°C (106°F).



Figure E

Note: The degree icon will continuously blink to indicate that the feature is active.



WARNING: RISK OF HYPERTHERMIA (OVER-HEATING) CAUSING SEVERE INJURY, BURNS, WELTS OR DEATH!
Water temperature in excess of 104°F (40°C) may be injurious to your health.

38. « GFCI Error »: The spa has detected an unsafe condition and tripped the GFCI breaker.

15.0 Troubleshooting Procedures

In the event your Sundance Spas hot tub is not working the way it should, please first review all the installation and operating instructions in this manual and check for messages on the panel display. If you are still not satisfied it is working properly, please follow the appropriate troubleshooting instructions below.

Note: If any of the supply cords to accessories are damaged, they must be replaced by authorized service personnel. Contact your authorized Sundance Spas dealer or qualified service technician.

15.1 Flow issues

1. Turn power off!
2. Verify water level is above all jets but below lowest pillow. Add water if necessary.
3. Check for clogged or dirty filter cartridge (Sec. 12.1, page 47).
4. Purge “air lock” from circulation pump intake by removing filter cartridge. Hold your garden hose over the filter cartridge wall fitting while using a rag as a seal around hose end. Ask a helper to turn on water for 30 seconds, then turn off. Reinstall filter cartridge and check hot tub (Sec. 12.1, page 47).
5. If the circulation pump is not running, turn power off at the main breaker, then turn power back on.
6. If problem persists, contact your authorized Sundance Spas dealer.

15.2 None of the Components Operate (e.g. Pump, Light)

Check the following:

1. Is there power to the hot tub?
2. Is the household circuit breaker tripped?
3. Contact your authorized Sundance Spas dealer or qualified service technician.

15.3 Pump Does Not Operate

Press the JETS 1 button. If no water movement is detected, make sure power is going to the hot tub and check the water level. If this does not solve the problem, contact your authorized Sundance Spas dealer or qualified service technician. The main jets pump 1 operates but no water flows to jets. Check the following:

1. Jets may all be closed. Verify all jets are in the open “on” position (Sec. 10.7, page 32).
2. Pump may not be properly primed. This can happen after the hot tub is drained and refilled. Press the JETS 1 button on the control panel several times, never leaving the motor running for more than 5 to 10 seconds at a time. Turn power off and let the air out of hot tub plumbing system by removing the filter cartridge (Sec. 12.1, page 47). Make certain you reinstall the filter cartridge before turning on hot tub power and restarting the jets pump 1.

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15.4 Poor Jet Action

- Make sure all jets are in the full open “on” position (page 32).
- Press the JETS 1 button to make certain pump #1 is on.
- Verify all air controls are in the “on” position (page 32).
- Check for dirty filter. Clean, if necessary (Section 12.1, page 47).

15.5 Water is Too Hot

Reduce thermostat setting.

15.6 No Heat

1. Check thermostat setting.
2. Keep the hot tub cover in place while heating.
3. Check the settings to see if your hot tub is in economy mode (page 36).

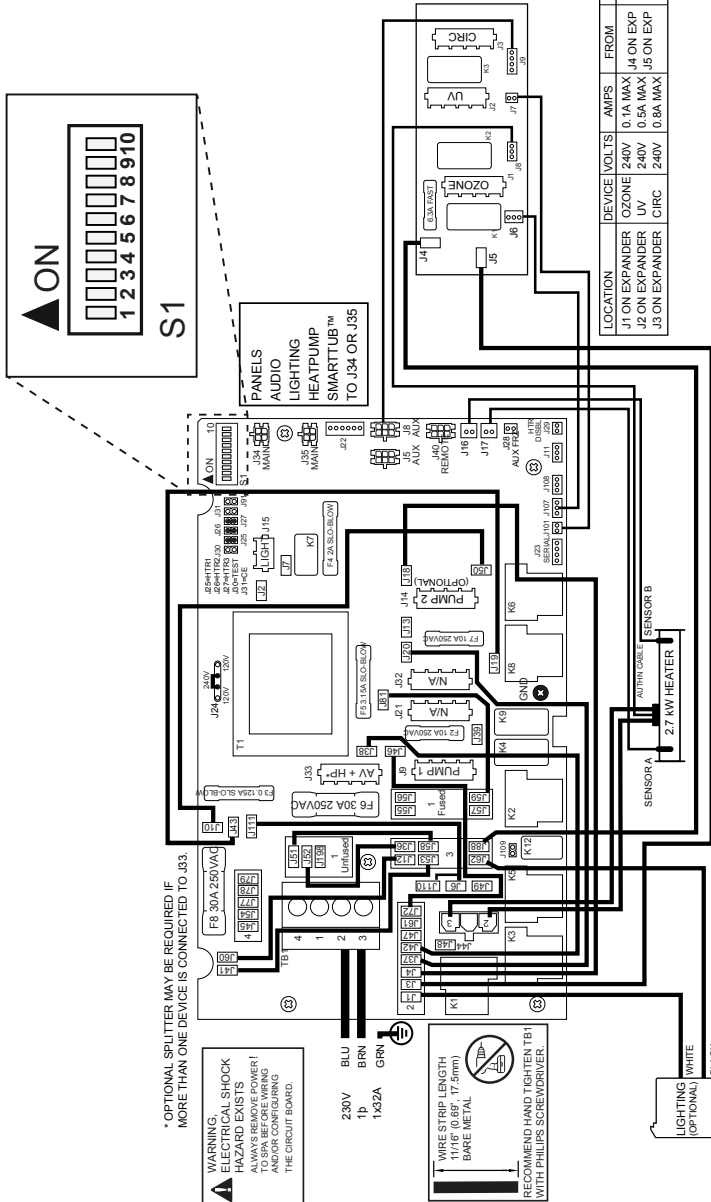
Should checking the above steps fail to correct the problem, please call your dealer so that they may arrange service. We build the best spas in the industry. Nonetheless, we are always striving to improve the quality and features of our products. Your input as a Sundance Spas hot tub owner is a cherished part of this process. If you have any comments or suggestions, or if you wish to be informed on any new products for your hot tub, please write to us.

CONGRATULATIONS on your good taste and welcome to the happiest and most relaxed family in the world!

16.0 Circuit Board Diagrams

16.1 Export Circuit Diagram

This wiring diagram is used for Export 230 VAC (50 Hz) dedicated power models.



⚠ DANGER
RISK OF SHOCK OR ELECTROCUTION!

Turn power off before servicing. This task should only be performed by a qualified technician.

English

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17.0 Switch settings for Export 50Hz Models

SWITCHBANK S1 OFF

SWITCHBANK S1 ON

TEST MODE OFF	◀ 1	TEST MODE ON
N/A	2 ▶	MUST BE ON
SEE TABLE	◀ 3	SEE TABLE
SEE TABLE	4 ▶	SEE TABLE
SEE TABLE	◀ 5	SEE TABLE
STORE SETTINGS**	◀ 6	MEMORY RESET**
MUST BE OFF	◀ 7	N/A
N/A	◀ 8	N/A
N/A	◀ 9	N/A
DEMO MODE OFF	◀ 10	DEMO MODE ON

** SWITCH # 6 SHOULD BE SET TO OFF UPON FINAL INSTALLATION.

BREAKER	DIP SWITCH NUMBER									
	1	2	3	4	5	6	7	8	9	10
1x16A	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1x20A	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1x32A*	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
1x40A or 1x16A/1x32A	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
2x16A	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
1x16A/1x20A	OFF	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
3x16A	OFF	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
*Factory default										

Single Service (default setting)

- 1x16A This setting will turn the heater off any time the jets pump is activated.
- 1x20A This setting will turn the heater off any time either one of the pumps are activated on two pump models.
- 1x32A This setting is for all two pump model spas. Both pumps and the heater will be allowed to operate at the same time.

Dual Service

- 2x16A Both the jets pump and the heater will be allowed to operate at the same time.
- 1x16A/1x20A This setting is for all two pump model spas. Both pumps and the heater will be allowed to operate at the same time.

Three Phase Service

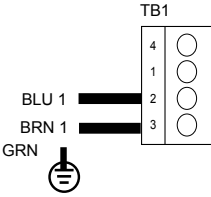
- 3x16A This setting is for all two pump model spas. Both pumps and the heater will be allowed to operate at the same time.

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17.1 Single Service 50Hz Connection

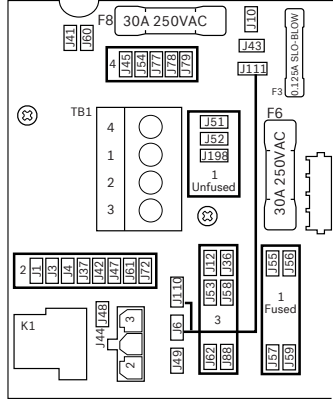
Wiring for export models with a single service breaker.

230V 1p 1x SINGLE SERVICE



FACTORY DEFAULT
LINE 1: ALL COMPONENTS

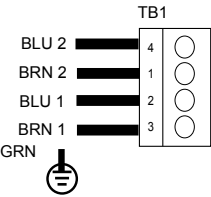
FROM	TO
J41	AREA 3
J60	AREA 3
J51	AREA 3
J52	AREA 3
J81	AREA 1 FUSED
J18	AREA 2
J38	AREA 2
J46	AREA 2
EXT LT ADAPTER BLACK WIRE	AREA 3
WHITE WIRE	AREA 2
J4 (EXP BRD)	AREA 3
J5 (EXP BRD)	AREA 2



17.2 Dual Service 50Hz Connection

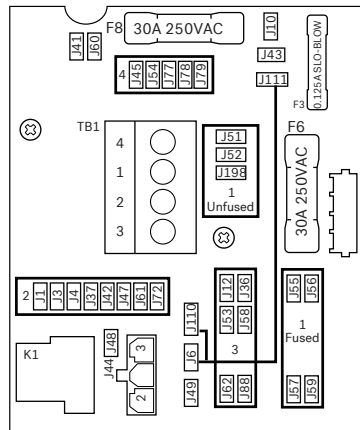
Wiring for export models with dual service breakers. The jumper wiring is shown below.

230V 2p 2x DUAL SERVICE



LINE 1: HEATER, LIGHTING
LINE 2: ALL OTHER DEVICES

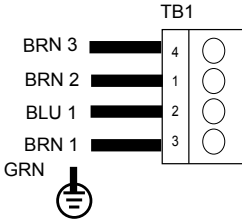
FROM	TO
J41	AREA 1 UNFUSED
J60	AREA 1 UNFUSED
REMOVE WIRE AT J51-J58	
REMOVE WIRE AT J52-J36	
J81	AREA 3
J18	AREA 4
J38	AREA 4
J46	AREA 4
EXT LT ADAPTER BLACK WIRE	AREA 1 FUSED
WHITE WIRE	AREA 4
J4 (EXP BRD)	AREA 1 FUSED
J5 (EXP BRD)	AREA 4



17.3 Three Service 50Hz Connection

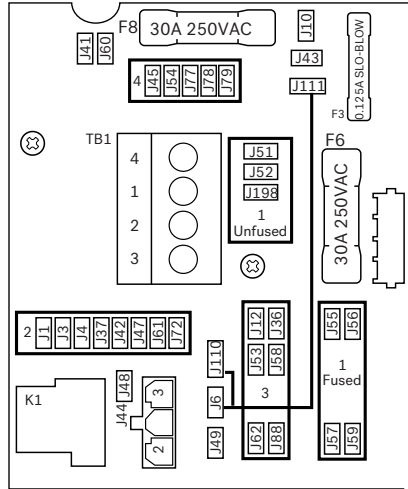
Wiring for export models with a three service breaker. The jumper wiring is shown below.

230V 3p 3x THREE SERVICE



LINE 1: HEATER, CIRC, EXT LT, LIGHTING
 LINE 2: PUMP 1, C8Z
 LINE 3: PUMP 2

FROM	TO
J41	AREA 4
J60	AREA 4
REMOVE WIRE AT J51-J58	
REMOVE WIRE AT J52-J36	
J81	AREA 1 FUSED
J18	AREA 2
J38	AREA 2
J46	AREA 2
EXT LT ADAPTER BLACK WIRE	AREA 3
WHITE WIRE	AREA 2
J4 (EXP BRD)	AREA 3
J5 (EXP BRD)	AREA 2



18.0 Optional BLUEWAVE® Hot tub Stereo System

To start enjoying your new stereo receiver, please read the following operation instructions in their entirety.





WARNING: RISK OF ELECTRICAL SHOCK HAZARD EXISTS AND EQUIPMENT DAMAGE! Never install or remove electrical devices (e.g. AUX/Bluetooth) while hands are wet or while sitting partially or fully immersed in the spa!

18.1 Electronic Device Connections and Functions

A. Connecting Your Bluetooth Device:

1. From your Bluetooth device, make sure the Bluetooth setting is ON.
2. Follow the pairing instructions for your Bluetooth device and connect to the “AQUATIC AV” or “BLUEWAVE” device that appears on your screen.
3. If asked for a password, enter the code “0000.”
4. The remote LCD screen will display, “BT AUDIO” if the process was successful.
5. A second Bluetooth device can be paired but only one can be played at a time.

18.2 Stereo Cautions

1.  **“CAUTION** - Risk of Electric Shock. Replace components only with identical components.”
2.  **“WARNING** - Risk of Electrocutation. Do not connect any auxiliary components (for example cables, additional speakers, headphones, additional audio/video components, etc.) to the system.”
3. Do not service this product yourself as opening or removing covers may expose you to dangerous voltage or other risk of injury. Refer all servicing to qualified service personnel.
4. When the power supply connections or power supply cord(s) are damaged; if water is entering the audio/video compartment or any electrical equipment compartment area; if the protective shields or barriers are showing signs of deterioration; or if there are signs of other potential damage to the unit, turn off the unit and refer servicing to a qualified service personnel.

