Owner's Manual

Safety
Installation
Start Up/Operation
Maintenance

Important Safety Instructions
Read and follow all instructions
Save these instructions

www.sunrisespas.com
CONGRATULATIONS ON YOUR PURCHASE OF A SUNRISE SPA

We have tried to compile a complete, easy to understand manual all about your spa and its' maintenance. Years of research and development have gone into producing the superior quality product you have purchased. Your spa is made from the highest quality material and latest technology available today. Pride and meticulous attention to detail have resulted in the spa you have chosen. With proper care, your spa will provide many years of comfort and pleasure.

Please take a few minutes now to read all of the instructions before you install your spa. This owner’s manual will help you understand your spa, so you will get the most from your investment. For service and advice, do not hesitate to call your authorized dealer. Your questions will be welcomed by friendly and knowledgeable staff.

May you have as much pleasure and enjoyment using your new spa, as we had making it for you.

Thank you for choosing Sunrise Spas.

CONDITIONS OF WARRANTY AND CONSUMER OBLIGATIONS

As a new spa owner, you have specific obligations in regards to the installation and safe use of this spa. Failure to do so may result in a loss of warranty coverage not to mention personal injury to those using this spa.

Inspect the spa upon its' arrival for damage. If you are being made aware of this for the first time, your spa may not have been delivered in it's original factory packaging. If this is the case, please take time to inspect your spa and report any damage or missing items to your dealer.

1. Install the spa both physically and electrically, in accordance with any local codes.

2. Provide suitable access to all sides of the spa. Any custom built enclosure, either above or below a deck surface, must be able to be removed with relative ease.

3. Provide sufficient work area around the spa's perimeter especially the side the spa's equipment is located on.

4. Regularly check operation of the spa in regards to filtration, jet pump operation and the heating system.

5. Report any concern to the dealer. Any problem that arises towards the end of a particular warranty coverage should be documented and reported to the dealer.

6. Maintain the water’s chemical balance and clean/replace the system's cartridge filter(s) as instructed by the dealer and/or Sunrise Spas.

7. Drain and refill the spa on a regular basis as instructed by the dealer and/or Sunrise Spas.

8. Winterize and store the spa and its' components in accordance with Sunrise' printed instructions.

9. Care for and maintain the spa cabinet, hard cover and acrylic surface as outlined in these instructions.

10. Ask your dealer to record the spa’s serial number on your bill of sale.

11. Provide a copy of your bill of sale, if requested by the dealer or Sunrise Spas.
YOUR PERSONAL SPA DATA

Before you begin the installation of your new spa please take a few minutes to fill out the details of your spa. This information will become invaluable later should you have a question for your dealer or should you need to make a warranty claim.

Model year

Model name/number

Spa serial number

Jet Pump(s) Size (HP, SPL, Watts etc.)

Heater size(kw)

Filter cartridge (model number/size)

Spa Pack model number/option codes

Spa Pack serial number

Dealer Name

Date of Purchase

We strongly recommend that you attach your bill of sale to this manual, after installation is complete. Keep it in a safe place for future reference. You may also wish to attach any notes you have made about the dealer delivery, dealer start up demo or any other notes that may be of benefit in the future.

IMPORTANT NOTICE: SAFETY SIGN

Enclosed with this Owner’s manual is a Safety Sign. This Safety sign must be permanently installed in a location that is visible to all spa users. It is the spa owner’s responsibility to remind all users about safe spa use, particularly occasional users of the spa, who may not be aware of the various health and safety issues.

To obtain additional or replacement copies of the safety sign, contact your Sunrise Spas dealer or:

Sunrise Whirlpool Spas
317 South Service Road
Grimsby, Ontario
Canada L3M 4E8
Telephone: 1-905-309-1800
e-mail: sunrise@sunrisespas.com
### IMPORTANT SAFETY INSTRUCTIONS

<table>
<thead>
<tr>
<th>WARNINGS</th>
</tr>
</thead>
</table>

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

2) Do not use Spas or Hot Tubs unless all suction guards are installed to prevent body and hair entrapment.

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

4) People with infectious deseases should not use a spa or hot tub.

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

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

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

8) Water temperature in excess of 38 degrees C(104 degrees F) may be injurious to your health.

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

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

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

12) Do not permit or use Electric Appliances(such as light, telephone, radio or television) within 5 ft.(1.5m) of the spa or hot tub.

<table>
<thead>
<tr>
<th>CAUTION:</th>
</tr>
</thead>
</table>

Maintain water chemistry in accordance with the manufacturer's instructions.

### READ AND FOLLOW ALL INSTRUCTIONS

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

(A) A green coloured terminal or a terminal marked G, GR, Ground, Grounding or the international grounding 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 supplying this equipment.

(B) At least two lugs marked "BONDING LUGS" are provided on the external surface or on the inside of the supply terminal box or compartment. To reduce the risk of electric shock, connect the local common bonding grid in area of the hot tub or spa to these terminals with an insulated or bare copper conductor not smaller than No.6 AWG.

(C) All field-installed metal components such as rails, ladders, drains or other similar hardware within 3 m( 10 ft.) of the spa or hot tub shall be bonded to the equipment grounding bus with copper conductors not smaller than No.6 AWG.

- **DO NOT** connect your spa to an extension cord.

### SAVE THESE INSTRUCTIONS
IMPORTANT SAFETY INSTRUCTIONS

HYPERTERMIA
Prolonged immersion in hot water may induce hypertermia. Symptoms and effects of hypertermia are as follows:

Hypertermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98°F (37°C). The symptoms of hypertermia include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hypertermia include:

- a) Unawareness of impending hazard;
- b) Failure to perceive heat;
- c) Failure to recognize the need to exit spa;
- d) Physical inability to exit spa;
- e) Fetal damage in pregnant women; and
- f) Unconsciousness and danger of drowning.

WARNING:
The use of alcohol, drugs or medication can significantly increase the risk of fetal hypertermia.

Important Safety Instructions for Spas with Audio Systems

- a) "CAUTION-Risk of Electric Shock. Do not leave compartment door open".
- b) "CAUTION- Risk of Electric Shock. Replace components only with identical components"
- c) " Do not operate the audio/video controls while inside the spa".
- d) "WARNING- Prevent Electrocuton. Do not connect any auxiliary components( for example cable, additional speakers, headphones, additional audio/video components etc.) to the system.
- e) These units are not provided with an outdoor antenna. When provided, it should be installed in accordance with article 810 of the National Electrical Code, ANSI/NFPA 70.
- f) 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.
- g) If 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 shielded or barriers are showing signs of deterioratin; or if theer are signs of other potential damage to the unit, turn off the unit and refer servicing to a qualified service personnel.
- h) This unit should be subjected to periodic routine maintenance( for example, once every 3 months) to make sure that the unit is operating properly.
**INSTALLATION INSTRUCTIONS**

Remember, your new spa is a powerful piece of electrical and plumbing equipment. You owe it to yourself, your family and your friends to install it correctly and safely.

**Before attempting to hook-up or use your spa, please read the following instructions:**

**POSITIONING OF YOUR SPA - CONSIDERATIONS**

- Your spa is completely self-contained. Therefore, you can situate it just about anywhere ... on a patio, in or on a deck, in a basement or sunroom. It comes completely pre-plumbed and water tested from the factory. Never lift or carry the spa by the plumbing. Damage could occur which would not be covered under warranty.

- You should take into account the following when selecting prospective spa sites in order to maximize enjoyment.

To avoid any personal injury or damage to your spa, have 4-5 people ready to assist you to move the spa to its' final location. Use a moving dolly and/or straps to more evenly distribute the spa's weight. Never lift or carry the spa by its' plumbing.

**SITE CONSIDERATIONS**

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Why it is important to consider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local codes</td>
<td>Local building, property and electrical codes may effect your installation.</td>
</tr>
<tr>
<td>Delivery access to location</td>
<td>Gates, overhangs, fences, gasmeters, AC units may become obstructions. You may need to access from a neighbour's yard or employ a crane.</td>
</tr>
<tr>
<td>Vegetation in spa area</td>
<td>Trees, bushes, flowers etc. can all add to spa maintenance.</td>
</tr>
<tr>
<td>Spa location relative to buildings</td>
<td>The location could add to your spa maintenance (removing snow from cover) and increase operating costs.</td>
</tr>
<tr>
<td>Fences, tree lines</td>
<td>More privacy during use and serves as a wind break but may also add more maintenance.</td>
</tr>
<tr>
<td>Spa step out location</td>
<td>Any surface that is slippery when wet could be dangerous for bathers both entering and exiting the spa.</td>
</tr>
<tr>
<td>Spa Direction</td>
<td>View when using a lounger &amp; ease of access for servicing</td>
</tr>
<tr>
<td>Downspouts and natural drainage of land</td>
<td>These may flood the spa area, damage spa or create a safety hazard to bathers</td>
</tr>
<tr>
<td>Outside water supply and draining location</td>
<td>You will need a place to safely drain the spa and a way to refill it easily.</td>
</tr>
<tr>
<td>Optional accessories</td>
<td>These may take up added space that you must plan for (cover remover/holder).</td>
</tr>
</tbody>
</table>

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Owner's Manual
**INSTALLATION INSTRUCTIONS**

**SPA SUPPORT**

Whatever the support is, it must be:

a) A continuous, level surface above grade capable of handling 80 lbs. per sq.ft. that will not be compromised by changes in the water table or water sitting in the area.

b) Such that the weight of the spa, water and bathers is not supported by the spa lip.

c) In full contact with the bottom of the spa

### ACCEPTABLE SPA SUPPORT BASES

<table>
<thead>
<tr>
<th>Support Type</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete Pad</td>
<td>4&quot; to 6&quot; thick with provision for run off</td>
</tr>
<tr>
<td>Patio Stones, Pavers etc.</td>
<td>Levelled with proper preparation of the earth</td>
</tr>
<tr>
<td>Wooden Deck Floor</td>
<td>Incl. centre support uprights in concrete and joists spaced 12&quot; on centre</td>
</tr>
<tr>
<td>Engineered Plastic Spa Pad</td>
<td>Following pad manufacturer’s instructions</td>
</tr>
</tbody>
</table>

Unacceptable Spa Support Bases include crushed gravel, stone dust, bare earth, platform built directly onto earth. **Damage caused by improper spa installation will void factory warranty.**

Do NOT locate your spa in a low run-off area since melting snow or rain can cause pump and equipment damage. **WATER SHOULD ALWAYS DRAIN AWAY FROM THE SPA.**
WHAT'S INSIDE YOUR SPA

HYDROTHERAPY JETS

Sunrise Spas uses a variety of jet sizes and internal styles in unique seating patterns to achieve superior hydrotherapy in individual spa models. Therefore, not every jet described or pictured below is in every Sunrise model. Not all jet internal styles are available in all jet sizes.

To adjust the water volume, simply turn the jet face clockwise to the off position or counterclockwise to the maximum position. If you move too hard to maximum you will release the internal from the jet body.

<table>
<thead>
<tr>
<th>Jet type:</th>
<th>Diameter:</th>
<th>Jet type:</th>
<th>Diameter:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster Storm</td>
<td>2” (51mm)</td>
<td>Mini Storm</td>
<td>3” (76mm)</td>
</tr>
<tr>
<td>Poly Storm</td>
<td>3 1/2” or 4” (89 or 102mm)</td>
<td>Jumbo Storm</td>
<td>7 1/2” (191mm)</td>
</tr>
<tr>
<td>Power Storm</td>
<td>5” or 6.5” (127 or 152mm)</td>
<td>Master Massage</td>
<td>7 1/2” (191mm)</td>
</tr>
<tr>
<td>Adjustable Cluster</td>
<td>Fixed Cluster</td>
<td>adjustable both</td>
<td>Directional-</td>
</tr>
<tr>
<td></td>
<td>- a steady, non-</td>
<td>in direction and</td>
<td>a steady stream</td>
</tr>
<tr>
<td></td>
<td>adjustable stream</td>
<td>volume.</td>
<td>of water</td>
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<td></td>
<td>of water</td>
<td></td>
<td>adjustable both</td>
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<td>a steady stream</td>
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<td>of water adjustable</td>
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<td>both in direction</td>
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<td></td>
<td>and volume.</td>
<td></td>
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</tr>
<tr>
<td>Storm II</td>
<td>Massage</td>
<td>Multi-Massage-a</td>
<td>Multi-Massage-</td>
</tr>
<tr>
<td>volume adjustable</td>
<td>a volume adjustable</td>
<td>volume adjustable</td>
<td>a non-</td>
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<tr>
<td>dual rotating stream</td>
<td>dual rotating stream</td>
<td>pulsating stream of</td>
<td>adjustable high</td>
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<tr>
<td>of water</td>
<td>of water</td>
<td>water</td>
<td>volume multi-</td>
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<td></td>
<td>nozzle shower</td>
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<td></td>
<td></td>
<td></td>
<td>stream of water</td>
</tr>
<tr>
<td>Jumbo Roto</td>
<td>Quad Storm</td>
<td>Master Massage-</td>
<td>Master Massage-</td>
</tr>
<tr>
<td>a volume and</td>
<td>volume adjustable</td>
<td>a non-</td>
<td>a non-</td>
</tr>
<tr>
<td>directional adjustable</td>
<td>internal with 4</td>
<td>high volume multi-</td>
<td>adjustable high</td>
</tr>
<tr>
<td>adjustable high-</td>
<td>rotating streams</td>
<td>nozzle shower</td>
<td>volume multi-</td>
</tr>
<tr>
<td>volume rotating</td>
<td>of water</td>
<td>shower stream of</td>
<td>nozzle shower</td>
</tr>
<tr>
<td>stream of water</td>
<td></td>
<td>water</td>
<td>stream of water</td>
</tr>
</tbody>
</table>
WHAT'S INSIDE YOUR SPA

Return Fitting
The return fitting is simply a wall fitting through which filtered, heated and ozonated water is returned to the spa. **Never block this fitting with any part of your body.**

WATER INTAKES

**Suctions**
These multi-holed, anti-vortex fittings in the footwell provide the intake water for the pump(s). A powerful suction is produced here when the jet pumps are turned on. **On systems with a dedicated circulation pump, (1) suction fitting will have a very slight suction on it, since the pump has a lower flow than the jet pump.**

**Skimmer/Filter**
This is the housing for your cartridge filter(s) and provides skimming action to remove surface debris. Some models have a removable basket from which debris can be dumped.

DECK CONTROLS

**Diverter Valves**
These slide handle valves are used to direct water flow between 2 groups of jets. You can choose 1 group independently or mix between the 2 groups. **We recommend you shut off the jet pump before changing the valve setting.**

**Air Controls**
Located on the deck of the spa, these tear drop handled valves control the amount of air being mixed with the water stream at each jet. The minimum to maximum movement is approximately 1/4 turn. More air will increase the massage effect from the jet. Proper air draw is achieved when the jet pump is operating on high speed, particularly if the pump is a 2-speed pump. A dedicated air control is used to control the air intake to the Master Massage jet.

**On/off Water Valve**
This positive seal valve is used to turn the water feature (blade waterfall, pop up waterfall or water shooters) on/off. Open it fully to get the best effect. On some models, this valve is used in conjunction with a small diverter valve to choose between (2) water features.
WHAT'S INSIDE YOUR SPA

Touch Pad Controller
Located in the recessed area of the spa lip along with the air volume controls, this is the switching centre for your pump(s), blower, light and any auxiliary equipment. Temperature setting as well as a readout of the current water temperature is displayed here.

LED topside - 4 keys and black display with red text and upper function markers

LCD topside - 8 keys and grey display with black text and lower function markers

MISCELLANEOUS

Air Injectors (on models with Champagne Air System)
These gently domed fittings are located in the bottom of the seats and are designed to diffuse the air, provided by the air blower, into tiny bubbles to enhance the spa experience.

Champagne Air system with Aromatherapy canister
The Aromatherapy system works automatically whenever the air blower is activated. A wonderful fragrance will fill the spa area adding to the overall spa experience.

To add beads to the canister:
Locate the canister on the deck of the spa
Make sure the air blower is off before removing the cap
Place beads inside the canister
Replace cap
Turn on air blower and enjoy!

A random trial package is included with the original Owner’s Manual. Ask your dealer for refills of aromatherapy beads.

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Owner’s Manual
**WHAT'S INSIDE YOUR SPA**

**Spa Light**  
This clear or slightly bluish fitting is usually in the vertical surface of the spa steps. It is controlled by a designated switch on the touch pad. It serves as a safety feature, lighting the spa's contours for those entering or exiting the spa.

**Air Bleed Valve**  
This valve is located in the filter well and serves as a relief point to release entrapped air from the various pump systems. Each valve has a finger grip tab to allow you to thread the valve open or closed. It is also sealed by an "O" ring.

**Thermowell**  
The thermowell is simply a sensing point for the spa pack's temperature probe to properly measure the temperature of the water in the spa.

**Bottom Drain (most models)**  
This grated fitting, connected to the drain valve, allows for uninterrupted draining of the spa to the lowest level possible in each model.

**Perimeter LED Lighting**  
These round shaped, multi-faceted fittings, located on the vertical spa wall are the "reflectors" for the LED light outputs.
WHAT'S UNDER YOUR SPA (THE EQUIPMENT)

The spa's control pack, circulation pump, heater, drain connection and ozonator may be accessed by removing the centre skirt panel along the control side of the spa. Removing the panel(s) to the right or left of the spa's main access panel will allow access to the whirlpool pumps, blower and any other optional equipment. On some models, all equipment is accessible from the main access panel.

Some components shown below may not be on your spa due to model variations.

The quiet **air blower** pumps air to the air manifold creating a "champagne" bubbling effect from the air injectors inside the spa. The air passes through an aromatherapy canister first, eroding the scented beads that are inside the canister.

**An ozonator** is used to assist in water treatment. The corona discharge (CD) model produces ozone which is drawn into the spa water via the return plumbing.

The high efficiency, space saving **circulation pump** slowly moves water through the filter system, across the heater element and then sends it back to the spa via the return fitting.

A high performance **2-speed jet pump** provides the power to operate the various hydrotherapy jets in the spa, at the optimum level. On models without a circulation pump, the low speed of the pump is used to circulate the water so it can be filtered and heated. Some models may have 2 jet pumps with diverter valves in the plumbing to properly power the jets. Gate valves in the plumbing lines allow easy servicing of the circ pump and heater. Safety clips on the valve shafts keep the valves open during use.

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**An ozonator** is used to assist in water treatment. The corona discharge (CD) model produces ozone which is drawn into the spa water via the return plumbing.
ELECTRICAL CONNECTION

Supply cable entry into spa equipment area
In all cases the best side for entry of the supply cable is the side to your left when you are standing at the equipment panel.
Right side entry is possible, however, this may involve additional supply cable, parts and time.
How to pass the cable through the spa enclosure:

Metal frame
Drill or punch a suitable hole through the metal kick plate. Check the rear of your selected location for any fitting/pipe/structure interference.
Use a cable strain relief or conduit fitting to pass the cable of individual wires through the hole.
You may also use the passage way built in between the back of the corner panel and the frame's "W" corner bracket.
If using this method, we suggest you remove the 2 adjacent side panels to expose the corner screws, allowing you to remove the corner panel. Then route your cable and use 1 or more cable clamps to secure the cable or conduit.

Plastic base
Drill a hole through the vertical perimeter of the base along the side of the spa or at the corner. Check the rear of your selected location for any fitting/pipe/structure interference.
Use a cable strain relief or conduit fitting to pass the cable of individual wires through the hole.

PART 1-NORTH AMERICAN (60HZ) MODELS

Please note the following important information:
When using this electrical equipment, basic safety instructions should be followed, including the following:

1. READ AND FOLLOW ALL DIRECTIONS
2. Electrical installation must be carried out by a qualified electrician strictly in accordance with local governing codes.
3. A terminal marked "ground" is located within the control box. 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 supplying the equipment.
4. At least two lugs marked "bonding lugs" are provided on the external surface of the control box. To reduce the risk of electric shock connect the local common bonding grid in the area of the hot tub or spa to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG.
5. All field installed metal components such as rails, ladders, drains or other similar hardware within 3m (10 ft.) of the spa or hot tub shall be bonded to the equipment grounding bus with copper conductors not smaller than No. 6 AWG.
6. Test the ground fault circuit interrupter before each use of the spa.
7. Before servicing any electrical components of the system make sure that the power supply is switched off.

Over the next few pages are wiring diagrams for various spa packs used in North American models. Pick out the one that applies to your spa and mark that page for future reference.
Several different models of GFCIs are available on the market. Note that our illustrations are generic.

**IMPORTANT:**
- Neutral of the GFCI must be connected to the neutral bus.
- Neutral of the spa must be connected to the GFCI.

**Note:** In new installations, GFCI trippings due to mis-wiring are very common.

If the breaker is properly wired, GFCI trippings can occur when the total amount of current drawn by the spa exceeds the rating of the breaker. Such an occurrence, however, is very unlikely, since each output of the spa pack is individually fused and fuses will blow before the GFCI trips. A current leak to the ground will also make the GFCI trip. If one or more of the components is faulty and there is a leak of more than 5 mA, the GFCI will trip to prevent electrocution.

**Several different models of GFCIs are available on the market. Note that our illustrations are generic.**

### Wire size and overcurrent protection (Canada/US)

<table>
<thead>
<tr>
<th>Amp rating of spa</th>
<th>Supply Wire type and size</th>
<th>Overcurrent Protection (amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than</td>
<td>To</td>
<td>60C copper, AWG</td>
</tr>
<tr>
<td>16</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>20</td>
<td>24</td>
<td>10</td>
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<td>24</td>
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<td>32</td>
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<td>6</td>
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<tr>
<td>36</td>
<td>40</td>
<td>6</td>
</tr>
<tr>
<td>40</td>
<td>48</td>
<td>4</td>
</tr>
</tbody>
</table>

**Notes:**
*If your GFCI trips immediately on startup or during the opening use of the spa, DO NOT USE THE SPA and take precautions to ensure that no one uses the spa, while you contact your dealer/electrician. GFCI trips on newly installed spas are predominantly caused by mis-wired GFCIs.*

**SPECIAL NOTE: Disconnect Switch**

This unit must be connected to a disconnect that de-energizes power to the entire unit for servicing, maintenance or the like. The disconnect switch, with marked "OFF" position, must be located within sight from the equipment and at least 5 ft. (1.52m) from the inside walls of the spa.

**SPECIAL NOTE: Emergency Switch**

This unit is intended for use in a single family dwelling. When used in locations other than a single family dwelling, a clearly labelled emergency switch, readily accessible to the occupants and at least 5 ft. (1.52m) away from the unit, shall be provided as part of the installation.
Electrical Connection Diagram - Canada/USA

Spa Pack: SC-CF
Voltage: 120/240VAC
Factory Current Setting Default: High Current
Current: 30 Amps
Frequency: 60Hz
Electrical Connection Diagram - Canada/USA


Voltage: 120/240VAC
Factory Current Setting Default: High Current
Current: 38 Amps max. (see ratings plate or spa pack cover label)
Frequency: 60Hz

Note: Drawing shown is for supply connection purposes only.
Electrical Connection Diagram -Canada/USA

Spa Pack: MC-MP-SR4
Voltage : 120/240VAC
Factory Current Setting Default: Low Current
Current: 30Amps (34 Amps for spa with blower option)
Frequency: 60Hz
Electrical Connection Diagram -Canada/USA

Spa Pack: MC-MP-SR5
Voltage : 120/240VAC
Factory Current Setting Default: Low Current
Current: 30Amps (34 Amps for spa with blower option)
Frequency: 60
Please note the following important information:
When using this electrical equipment, basic safety instructions should be followed, including the following:

1. **READ AND FOLLOW ALL DIRECTIONS**

2. This spa must be connected to an RCD (residual current detector) with a residual operating current not exceeding 30mAmps.

3. Electrical installation must be carried out by a qualified electrician strictly in accordance with local governing codes.

4. A terminal marked "ground" is located within the control box. 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 supplying the equipment.

5. At least two lugs marked "bonding lugs" are provided on the external surface of the control box. To reduce the risk of electric shock connect the local common bonding grid in the area of the hot tub or spa to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG.

6. Test the RCD before each use of the spa, according to the manufacturer's instructions.

7. Before servicing any electrical components of the system make sure that the power supply is switched off.

8. Keep the door closed in order to provide IPX5 protection to the electrical compartment.

   *Any opening made through the spa enclosure for the entry of input cables/wires, must be made watertight to preserve the IPX5 rating of the appliance.*

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**Over the next few pages are wiring diagrams for various spa packs used in European models.**

*Pick out the one that applies to your spa and mark that page for future reference.*

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Owner's Manual
Electrical Connection Diagram - Europe

Spa Pack: SC-CF-SR3-CE and SC-CF-SR5-CE
Voltage: 230VAC
Factory Current Setting Default: Low Current
Current: 16Amps
Frequency: 50Hz
Electrical Connection Diagram - Europe

Spa Pack: MC-MP-SR5-CE
Voltage: 230VAC / 1 phase or 380VAC / 3 phase
Factory Current Setting Default: High Current
Current: 32Amps
Frequency: 50Hz

Owner's Manual
Electrical Connection Diagram -Europe

Spa Pack: MC-MP-SR6-CE
Voltage: 230VAC / 1 phase or 380VAC / 3 phase
Factory Current Setting Default: Low Current
Current: 16Amps
Frequency: 50Hz
HOW YOUR SPA WORKS

For circulating, heating and filtering the spa water your spa has a dedicated circulation pump that runs continually and an immersion heating element within a stainless steel heater barrel. The filter system is either a single or two-cartridge system that is accessible from inside the spa. A few models use the low speed of a 2-speed jet pump to circulate the spa water through the heater and filter system.

Hydrotherapy action is achieved by either (1) or (2) 2-speed jet pumps, to provide gentle, low-speed therapy or intense, high-speed therapy. The jets have directional nozzles, multiple directional nozzles, fixed nozzles or rotating nozzles. Most of the jets have the ability to have the water volume adjusted to your therapy needs. These may even be trimmed with stainless steel to enhance the look.

Air controls on the deck control the air and water mix that makes up the stream coming out of the jet. A diverter valve is used on some models to dedicate pump flow to specific groups of jets or share it amongst several jets. Models with the waterfall feature have a control valve to turn the waterfall on/off.

The blower feature uses a high output air pump to bubble air through the water via single hole injectors.

The spa light may be as simple as an on/off light with coloured lenses. Some models offer a high and low intensity light system. Your spa may also be equipped with a multi-LED spa light allowing you to enjoy the effects of a colour changing LED light system. LED lights around the perimeter of the spa create a special effect of colour changing lights if your spa has this feature.

A digital topside control panel allows you to activate the pumps, blower and light plus set the temperature that you want the water to be. The topside display also shows error messages and tells you if any special spa pack features are operating, including protection against overheating and freeze-up. Some models even have secondary control panel to make pump, blower and light activation easier while using the spa.
START-UP

FILLING YOUR SPA

Okay, your new spa has been connected to the power and you have a basic understanding of how the equipment works and what the jets can do for you. We know you are anxious to fill the spa and get it started, but, please read this section carefully while you fill your spa.

1) Make certain that the breaker or fuse(s) that supplies your spa equipment is off.
2) Wash the spa surface thoroughly with warm water and a soft cloth only to remove any construction or transportation debris.
3) Check that the drain connection is closed.
4) Check that the unions on the spa pack and pump(s) are tight. They can loosen during transportation.
5) Remove the air bleed screw located in the filter box of most models.
6) Begin filling the spa with a standard garden hose. Do not fill your spa with soft water (consult dealer). If possible, your source fill water temperature should not be less than 70°F (21°C). Do Not operate the spa with low water levels. A level 4” over the bottom of the skimmer mouth is recommended.
7) Increase the fill pressure slowly to prevent surface damage by a jerking hose.
8) Visually check all lines for leaks and correct immediately. If you cannot stop the leak simply by tightening a union or resetting an “O” ring or gasket, contact your dealer immediately.
9) Turn on the main power at your electrical panel.
10) The topside control panel will reset showing all "8's" and all topside ICONS will turn on for 1-2 seconds. Then the system will start the circulation pump(or low speed pump) and the heater.
11) As soon as you have a steady stream of water coming out of the air bleed and no gurgling in the piping you can re-install the plug and secure it.

IMPORTANT

In some cases entrapped air can be hard to remove. Unplugging the circulation pump from the spa pack for 30-60 seconds and then plugging it back in will help to move the trapped air. As the entrapped air leaves the lines, the gurgling sound you have heard will disappear. You may also have to do this when you drain and refill the spa. If you leave air trapped in the system, you will experience heating and circulation problems.

Now, read the keypad operation, user settings, system defaults, automatic functions and display messages in USER OPERATIONS & SETTINGS section of this Owner's Manual. Choose the LED or LCD section depending on which control system your spa has. Take a few minutes to try the various keys and features on your new spa.

Once you feel comfortable with the operation of your spa’s controls, set the temperature to the desired level (100°F/38°C is an excellent starting point). Close the air controls and cover the spa with your hard cover. Heat up times will vary based on volume of water in the spa, but you can generally expect 6-8 hours to reach maximum temperature.

Always view the temperature display before entering the water. For your own personal safety do not enter when the display exceeds the maximum set point of 104°F/40°C.

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Owner's Manual
**USER OPERATION & SETTINGS - LED CONTROL**

**THE TOPSIDE CONTROL PANEL**

The **red LED display** shows the current water temperature, which is updated every second. The display also serves as the message center for any system errors, programming and temperature setting changes. The function indicators are a series of red dots or triangles with a symbol above each to indicate when equipment or a system feature is on. These indicators can be on, flashing or off.

Not all the keys & features shown here will be on your topside control panel. Some keys may be shown but not used on your particular spa model. Take a minute to check those that apply to your spa.

**THE KEYS**

"**JETS**" or "**JETS1**" KEY

Use(s): To control jet pump 1 and the blower (if applicable)

Operation:

a) **Without blower feature**

Successive presses: Pump Low  On, Pump High  On, Pump Off

b) **With blower feature (Canada/US)**

Successive presses: Pump Low  on, Pump Low  and Blower On, Pump High  and Blower On, Pump High  On, Pump and Blower Off

c) **With blower feature (Europe)**

Successive presses: Pump Low  On, Pump High  On, Pump High  and Blower On, Pump Low  and Blower On, Pump and Blower Off

Duration: 20 minutes automatically unless key pressed by user to off.

Topside Indicator: On whenever the pump or blower is operating.

"**JETS2**" KEY

Use(s): To control jet pump 2

Operation:

Successive presses: Pump 2 On, Pump 2  Off

Duration: 20 minutes automatically unless key pressed by user to off.

Topside Indicator: On whenever the pump is operating.

"**LIGHT**" KEY

Use(s): To control the spa light and LED lighting plus to review/change the purge or filter cycle.

Operation:

Successive presses: Spa light On, Spa light Off

Press and hold for 5 seconds: see PURGE & FILTER CYCLE

Duration: 2 hours automatically unless key pressed by user to off.

Topside Indicator: On whenever the spa light is operating.
**USER OPERATION & SETTINGS-LED CONTROL**

**LED Light Operation**
Your spa may be equipped with an LED light system consisting of perimeter lights, lighted water feature(s) and/or a thru wall underwater spa light, depending on the spa model. The system is controlled using the LIGHT key on the topside control panel. The spa pack is factory set/programmed for simple on/off spa light operation.

Setting 1 - Slow colour change through all the colours
Setting 2 - Aqua (blue and green mix)
Setting 3 - Purple (blue and red mix)
Setting 4 - Blue
Setting 5 - Gold (red and green mix)
Setting 6 - Green
Setting 7 - Red
Setting 8 - Flash each colour for about 2 seconds ON, then 1 second OFF. Starts with Aqua, going to purple, then blue, gold, green and red. Then repeats.
Setting 9 - Strobe all colours (fast flashing ON/OFF)

The program will then start over at setting 1.

Operation: To move from setting to setting simply turn the LIGHT key on/off.

*If the light is turned OFF for more than 5 seconds, the sequence automatically restarts at setting 1. This allows you to start at the beginning without having to go through the whole sequence again.*

**"HEAT" KEY, "COOL" KEY or "HEAT/COOL" COMBINATION KEY**

Use(s): To show and/or change current temperature set point

Operation: Quick press: Display switches to show current set point for 5 seconds

- Press and Hold: Displays current set point then increases or decreases set point in 1°F (0.5°C) increments until released to a maximum of 104°F (40°C) or a minimum of 59°F (15°C).

Duration: New set point remains visible for 5 seconds after key is released.

Topside indicator: LED indicator (dot or arrow) under the thermometer symbol.

Important Note: If your spa has a combination Heat/Cool key, its' function of increasing or decreasing the value reverses with each press and release of the key.
### PERSONAL SETTINGS

#### PURGE CYCLE
The term "purge cycle" applies to spa made with a dedicated circulation pump that runs continuous to filter and heat the spa water. Purging is used to move stagnant, cooler water from the jet pump and blower plumbing back into the spa and replace it with warmer water. Increase the number of purges in colder weather or when the bather load increases.

**To review/change the number of purges per day:**
- Press the LIGHT key (display shows current number of purges in a 12-hour period. Could be 0,1,2,3,4,6 or 12)
- Use HEAT or COOL key to increase or decrease the number of purges
- Press the LIGHT key to save the new setting and start a purge immediately (pump(s) and blower run for 1 minute each in sequence).
- "PUr" will appear on the display, alternating with the temperature readout, while a purge cycle is running.
- Delaying longer than 5 seconds when setting will result in saving the new setting but not starting it until the next scheduled purge starts from the previous setting.

#### FILTER CYCLE
The term "Filter cycle" applies to spas made without a circulation pump that use the low speed of a 2-speed pump to filter and heat the spa water. The filter cycle occurs 2 times per day (every 12 hours) and its' duration is settable. Increase the duration of the filter cycle if the current setting is not adequate to provide enough filtration to properly filter the water. Increased bather load is usually a good reason to increase the filter cycle setting.

**To review / change the duration of the filter cycle:**
- Press and hold LIGHT key for 5 seconds (display shows current duration of the filter cycle in a 12-hour period. Could be any number between 0 and12)
- Use HEAT or COOL key to increase or decrease the duration
- Press the LIGHT key to save the new setting and start a filter cycle immediately (pump and blower will purge for 1 minute before the filter cycle starts.) "FIL" will appear on the display, alternating with the temperature readout while a filter cycle is on.
- Delaying longer than 5 seconds when setting will result in saving the new setting but not starting it until the next scheduled filter cycle starts from the previous setting.

**Notes about the PURGE or FILTER CYCLE:**
1) If a pump, blower or the spa light is turned on during a purge cycle, the purge cycle will be cancelled.
2) If a pump, blower or spa light is turned on during a filter cycle the filter cycle is cancelled while the pump, blower or spa light is on and for 40 minutes after it is turned off.
3) If the purge cycle has been changed from the factory default of 3, a purge cycle will start on any power up.
AUTOMATIC FEATURES

Heater
When the water temperature is 1°F (0.5°C) lower than the set point, the heater will come on until the spa water reaches 1°F (0.5°C) higher than the set point. While the heater is on the topside indicator at the heat logo will be on. The indicator will flash whenever the system is calling for heat but the heater is not being allowed to come on due to a system error/feature.

Overheat Protection
If the water temperature is more than 2°F (1°C) above the set point, the low speed pump will only be run for 2 minutes every 30 minutes, until the temperature cools to the set point. **This does not apply to models with a circulation pump.**
The display indicator at the ozone logo will flash in an irregular pattern when the Overheat Protection is on.

Ozonator
The ozonator operates continually unless:
a)   A pump, blower or light has been turned on (see Ozonator protection)
b)   The spa is not in a filter cycle
The display indicator at the ozone logo will be On when the ozonator is on and Off when the ozonator is off.

Ozonator Protection
The ozonator will shut off if the pump(s), blower or spa light have been started. The ozonator will stay off until the pump, blower or spa light has shut off (automatically or manually) plus 40 minutes after that. The display indicator at the ozone logo will be On whenn the ozonator is on and Off when the ozonator is off.

Smart Winter Mode
Smart Winter Mode protects the spa’s plumbing from freezing by checking the air temperature around the spa pack. If the circuitry senses a temperature below it’s pre-set level, the Smart Winter Mode will be activated.

•   Pump(s) come on in high speed for 1 minute, if they haven't been on in 2 hours. Pump start up cycle shortens if freeze danger level increases.
•   "AFP" will alternate with temperature readout on the display during the time when Smart Winter Mode is on.
•   Smart Winter Mode last 24 hours, then shuts off if the freeze danger has passed.
### ADDITIONAL DISPLAY MESSAGES

#### Flashing Temperature Reading
- Power has been off and has been restored
- Press any key to stop flashing display

#### Flashing Temperature Reading above 110°F (42.05°C) or HL
- First level of High limit overheat protection has been reached (112°F/44.5°C)
- Will reset (stop flashing) when water cools to 109°F (42.5°C)

#### Highly Incorrect Temperature Readout or Prr
- Water temperature shows as 32°F (1°C) or a value above 119°F (44°C) when temperature measured with external thermometer is comfortable.
- Temperature sensor problem. DO NOT use spa. Call dealer.

#### (3) Flashing dots on the Display or FLO or FLC
- A problem has been sensed with the water flow or spa water temperature (2nd level of high limit temperature protection)
- The HEAT indicator on the topside will be flashing as well. Spa water temperature will drop over time.
- DO NOT use spa. Take precautions to ensure no spa use by others
- Check troubleshooting guide in this manual before calling dealer.
USER OPERATION AND SETTINGS-LCD CONTROL

THE TOPSIDE CONTROL PANEL
The black and grey LCD display shows the current water temperature, which is updated every second. The display also serves as the message center for any system errors, programming and temperature setting changes. The function indicators are a series of black triangles with a symbol below each to indicate when equipment or a system feature is on. These indicators can be on, flashing or off.

THE KEYS

"ON/OFF" KEY
Use(s): To turn the spa pack off, activate Panel Lock
Operation: Successive presses: System On/System Off
Press and hold for 5-10 seconds: see PANEL LOCK
Duration: Off for 30 minutes unless key pressed to turn back on
Topside Indicator: "OFF" on display. Flashing "OFF" during heating period (delays shut off for 3 minute Cool Down period)

"JETS 1" and/or "JETS 2" KEY
Use(s): To control the operation of jet pump 1/jet pump 2, access Dual set point mode (Jets 1 key)
Operation: Successive presses: Pump Low speed On, Pump High speed On, Pump Off
Press and hold Jets 1 key for 5 seconds: see DUAL SET POINT MODE
Duration: 20 minutes automatically unless key pressed by user to off.
Topside indicator: On- the pump in high speed. Flashing - the pump in low speed.

"JETS 2" KEY (ON XP and SELECT XP MODELS ONLY)
Use: To control in a specific sequence the operation of jet pump 2 and jet pump 3
Duration: 20 minutes automatically unless key pressed by user to off.
Topside indicator: On- the pump in high speed. Flashing - the pump in low speed.

"BLOWER" KEY
Use(s): To control the operation of the blower
Operation: Successive presses: Blower on High speed, Blower on Low speed, Blower Off
Note: On some models blower operation is ON/OFF only.
Duration: 20 minutes automatically unless key pressed by user to off.
Topside indicator: On whenever the blower is running in high speed and flashing whenever the blower is running in low speed.

"LIGHT" KEY
Use(s): To control the spa light and/or perimeter lights plus to review/change the purge/filter cycle
Operation: Successive presses: Spa light on High, Spa light on Low, Spa light Off
Duration: 2 hours automatically unless key pressed by user to off.
Topside Indicator: On when the light is on high intensity. Flashing when the light is on low intensity.

Operational note-EUROPE: User feedback is used on this system, whereby when the user starts a pump or blower, other equipment operating at the same time may switch to low speed or shut off altogether before the item desired is allowed to come on. This is to limit current draw and to avoid the confusion of having inactivity keys.
LED Light Operation
Your spa may be equipped with an LED light system consisting of perimeter lights, lighted water feature(s) and/or a thru wall underwater spa light, depending on the spa model. The system is controlled using the LIGHT key on the topside control panel. The spa pack is factory set/programmed for simple on/off spa light operation.
Setting 1- Slow colour change through all the colours
Setting 2- Aqua (blue and green mix)
Setting 3- Purple (blue and red mix)
Setting 4 - Blue
Setting 5 - Gold (red and green mix)
Setting 6 - Green
Setting 7 - Red
Setting 8 - Flash each colour for about 2 seconds ON, then 1 second OFF. Starts with Aqua, going to purple, then blue, gold, green and red. Then repeats.
Setting 9 - Strobe all colours (fast flashing ON/OFF)
The program will then start over at setting 1.
Operation: To move from setting to setting simply turn the LIGHT key on/off.
*If the light is turned OFF for more than 5 seconds, the sequence automatically restarts at setting 1. This allows you to start at the beginning without having to go through the whole sequence again.*

"HEAT" and "COOL" KEYS
Use(s): To show and/or change current temperature set point
Operation: Quick press: Display switches to show current set point for 5 seconds
Press and Hold: Displays current set point then increases or decreases set point in 1°F (0.5°C) increments until released to a maximum of 104°F (40°C) or a minimum of 59°F (15°C).
Duration: New set point remains visible for 5 seconds after key is released.
Topside indicator: LCD indicator (thermometer) on next to temperature readout.

"OZONE/FILTER" KEY
Use(s): To show/change the purge/filter cycle setting, Invert (flip) the display
Operation: Successive presses: Shows current purge/filter cycle setting, Saves new purge/filter cycle setting
Press and hold 5 seconds: See INVERTED DISPLAY
Duration: Displays current or new purge/filter setting for 5 seconds
Topside indicator: "FXX" on display while showing or changing setting.
"FXX" where "XX" can be any number from 0 to 12.
PURGE CYCLE (CIRC PUMP MODELS)

The term "purge cycle" applies to spa made with a dedicated circulation pump that runs continuous to filter and heat the spa water. Purging is used to move stagnant, cooler water from the jet pump and blower plumbing back into the spa and replace it with warmer water. Increase the number of purges in colder weather or when bather load increases.

To review/change the number of purges per day:
- Press the OZ/FILTER key (display shows FXX where XX is number of purges in a 12-hour period)
- Use HEAT or COOL key to increase or decrease the number of purges
- Press the OZ/FILTER key to save the new setting and start a purge immediately (pump(s) and blower run for 1 minute each in sequence)
- "PUr" will appear on the display, alternating with the temperature readout, while a purge cycle is running
- Delaying longer than 5 seconds when setting will result in saving the new setting but not starting it until the next scheduled purge starts from the previous setting.

FILTER CYCLE (NON CIRC PUMP MODELS)

The term "Filter cycle" applies to spas made without a circulation pump that use the low speed of a 2-speed pump to filter and heat the spa water. The filter cycle occurs 2 times per day (every 12 hours) and its’ duration is settable. Increase the duration of the filter cycle if the current setting is not adequate to provide enough filtration to properly filter the water. Increased bather load is usually a good reason to increase the filter cycle setting.

To review/change the duration of the filter cycle:
- Press and hold OZ/FILTER key for 5 seconds (display shows current duration of the filter cycle in a 12-hour period, as "FXX". Could be any number between 0 and 12)
- Use HEAT or COOL key to increase or decrease the duration
- Press the OZ/FILTER key to save the new setting and start a filter cycle immediately (pump and blower will purge for 1 minute before the filter cycle starts.) "FIL" will appear on the display, alternating with the temperature readout while a filter cycle is on.
- Delaying longer than 5 seconds when setting will result in saving the new setting but not starting it until the next scheduled filter cycle starts from the previous setting.

Notes about the PURGE or FILTER CYCLE:
1) If a pump, blower or the spa light is turned on during a purge cycle, the purge cycle will be cancelled.
2) If a pump, blower or spa light is turned on during a filter cycle the filter cycle is cancelled while the pump, blower or spa light is on and for 40 minutes after it is turned off.
3) If the purge cycle has been changed from the factory default of 3, a purge cycle will start on any power up.

PANEL LOCK

To lock out only the setting keys against unauthorized use (Partial Lock):
- Press and hold the ON/OFF key for 5 seconds. "LocP" will appear. Release key.
- "LocP" will appear for 5 seconds if any setting key is pressed.
- Press and hold ON/OFF key for 5 seconds. "uLOC" will appear, unlocking the setting keys.
- Press the ON/OFF key to turn the system back on.
- Resetting spa power will also remove "LocP"

To lock out all the keys against unauthorized use (Full Lock):
- Press and hold the ON/OFF key for 10 seconds. "LocP" will appear first, followed by "LocF". Release key. All keys are now locked.
- "LocF" will appear for 5 seconds if any key is pressed.
- Press and hold ON/OFF key for 5 seconds. "uLOC" will appear, unlocking all the keys. The system will turn back on automatically.
- Resetting spa power will also remove "LocF"
**INVERTED DISPLAY**

To flip the display so it can be read from inside the spa:
- Press and hold OZ/FILTER key for 5 seconds
- Display "flips" (no degrees F or C when display is readable from inside the spa)
- Press and hold OZ/FILTER key for 5 seconds to "flip" display back.
- Resetting power will also "flip" display back to original.

**DUAL SET POINT MODE**

The DUAL SET POINT MODE allows you to regulate the water temperature at (2) different set points depending on the time of day. Useful if your power costs are less during off peak hours.

To review/set the DUAL SET POINT:
- Press and hold the JETS 1 key for 5 seconds
- "dxxx" will appear, "xxx" is last setting or factory default.
- Use HEAT or COOL key to adjust second set point from 59°F (15°C) to 104°F (40°C)
- Press JETS 1 key once
- "ddxx" will appear, "xx" is last setting or factory default.
- Use HEAT or COOL key to increase or decrease the duration (hours) of the second set point
- While in DUAL SET POINT, the display will alternate between the actual water temperature and "duAL"

a) To cancel the DUAL SET POINT, press HEAT or COOL key once or reset power to the spa. Heat regulation returns to primary set point.

b) To review the DUAL SET POINT settings, simply press and hold JETS 1 key for 5 seconds to view set point. Press key once to view duration. Display will switch back to current temperature after 5 seconds. Dual Set Point default values are 95°F (35°C) and 0 hours.

**AUTOMATIC FEATURES**

**Heater**

When the water temperature is 1°F (0.5°C) lower than the set point, the heater will come on until the spa water reaches 1°F (0.5°C) higher than the set point. While the heater is on the topside indicator at the heat logo will be on. The indicator will flash whenever the system is calling for heat but the heater is not being allowed to come on due to a system error/feature.

**Overheat Protection**

If the water temperature is more than 2°F (1°C) above the set point, the low speed pump will only be run for 2 minutes every 30 minutes, until the temperature cools to the set point.

*This does not apply to models with a circulation pump.*

The display indicator at the ozone logo will flash in an irregular pattern when the Overheat Protection is on.

**Ozonator**

The ozonator operates on a 30-minute on/off (Canada/US) or continually (Europe) cycle unless:

a) A pump, blower or light has been turned on (see Ozonator protection)
b) The spa is not in a filter cycle
c) The spa pack’s internal programming has been reset to continuous ozonator operation

The display indicator at the ozone logo will be On when the ozonator is on and Off when the ozonator is off.

**Ozonator Protection**

The ozonator will shut off if the pump(s), blower or spa light have been started. The ozonator will stay off until the pump, blower or spa light has shut off (automatically or manually) plus 40 minutes after that. The display indicator at the ozone logo will be On when the ozonator is on and Off when the ozonator is off.
**USER OPERATION & SETTINGS-LCD CONTROL**

**Smart Winter Mode**
Smart Winter Mode protects the spa's plumbing from freezing by checking the air temperature around the spa pack. If the circuitry senses a temperature below it's pre-set level, the Smart Winter Mode will be activated.

- Pump(s) come on in high speed for 1 minute, if they haven't been on in 2 hours. Pump start up cycle shortens if freeze danger level increases.
- "AFP" will alternate with temperature readout on the display during the time when Smart Winter Mode is on.
- Smart Winter Mode last 24 hours, then shuts off if the freeze danger has passed.

**ADDITIONAL DISPLAY MESSAGES**

**Flashing Temperature Reading**
- Power has been off and has been restored
- Press any key to stop flashing display

**Flashing Temperature Reading above 110°F (42.05°C) or HL**
- First level of High limit overheat protection has been reached( 112°F/44.5°C)
- Will reset(stop flashing) when water cools to 109°F(42.5°C)

**Highly Incorrect Temperature Readout or Prr**
- Water temperature shows as 32°F (1°C) or a value above 119°F (44°C) when temperature measured with external thermometer is comfortable.
- Temperature sensor problem. DO NOT use spa. Call dealer.

**(3) Flashing dots on the Display or FLO or FLC**
- A problem has been sensed with the water flow or spa water temperature( 2nd level of high limit temperature protection)
- The HEAT indicator on the topside will be flashing as well. Spa water temperature will drop over time.
- DO NOT use spa. Take precautions to ensure no spa use by others
- Check troubleshooting guide in this manual before calling dealer.
MAINTENANCE

To protect the equipment and the batters using your spa, regular maintenance must be performed.

CARING FOR THE ACRYLIC SURFACE

This beautiful acrylic surface is among the glossiest, high quality surface materials available. It’s hard, non-porous surface prevents dirt from accumulating and resists stains better than other plastic materials. With normal use, it is so durable it will retain its beauty with only a minimum of care. So to maintain the high gloss and elegant look, just follow these simple steps:

Use common household, non-abrasive cleaners for most cleaning jobs.
(For example: LYSOL BASIN, TUB & TILE CLEANER, GLASS PLUS, MR.CLEAN and TOP JOB, or a mild dishwashing detergent such as IVORY LIQUID) Rinse well and dry with a clean cloth.
Never use abrasive cleaners.
Do not allow your acrylic surface to come into contact with products such as acetone (nail polish remover), nail polish, dry cleaning solution, lacquer thinners, gasoline, pine oil, etc.
Remove dust and dry dirt with a soft, damp cloth.
Clean grease, oil, paint and ink stains with isopropyl (rubbing) alcohol.
Avoid using razor blades or other sharp instruments that might scratch the surface. Small scratches can be removed by applying a thin coat of automotive paste wax and buffing lightly with a clean cloth. For deeper scratches, sand the surface lightly with 600 grit "wet" sandpaper (never dry) and buff with fine-grit buffing compound.

If you don’t rinse off any surface cleaner thoroughly, you will experience excessive foaming on refilling and start-up. Periodic application of a good wax adds lustre to the appearance and protects the finish.

CLEANING THE SPA’S CABINET

Cleaning the cabinet is easy and fast with many common household cleaners. The cleaning solution should be applied and immediately wiped dry. The cleaning solution should not be left to stand on the material for an extended period of time.

Recommended Cleaners:
Windex, Glass Plus, 409 Glass & Surface cleaner, Spic and Span Cinch, Fantastik All-Purpose, Regency( Glass & Surface), Clorox Clean-Up and Fantastik Orange Action

Cleaners to avoid:
Harsch cleaners with glycol ethers or ethanol type solvents and/or isopropyl alcohol soften the coating if left on for several minutes.

Cleaners such as Goof Off, Great Value All Purpose cleaner(Wal Mart), 409 General Purpose, Greased Lightning, citrus cleaners, abrasive cleaners and solvents such as acetone, paint remover and lacquer thinner are NOT recommended for cleaning the cabinet.
**MAINTENANCE**

**SPAC HARD COVER**

In an uncovered spa, over 90% of the heat is lost from the spa surface. The evaporation also affects the chemical balance and could create humidity problems indoors.

Hard covers are engineered for maximum thermal efficiency and appearance. They are hinged in the middle for easier handling, and the zippers allow the tapered styrofoam inserts to be changed if damaged.

The skirt on the cover hugs the lip of the spa for a tight fit. The handles are placed so even a large cover can be easily opened by 1 person.

The locks, with one part fastened to the deck or skirt, prevent small children or animals from entering the spa.

- Do not drag the cover across the spa or decking. Fold cover first, then remove with assistance.
- Do not place the spa where snow loads are excessive on the cover. If snow accumulates on the cover, carefully remove the snow.
- Do not shovel the snow as the cover will tear.
- Do not stand on the hard cover. The cover is not warranted against the foam breaking or the vinyl cover tearing.
- Do not use abrasive cleaners or leather restoration-type cleaners. Use only water and a mild detergent.

**JET MAINTENANCE**

Several of the jets in your Sunrise spa are volume adjustable. The volume adjustment of the jet internals in these jets can be effected by debris in the spa water. If you feel the volume adjustment getting stiff, you should consider removing and washing the internal at the next scheduled fill and drain of the spa.

**To remove an adjustable jet internal:**

1) Turn the jet face to the maximum volume position (fully counterclockwise).
2) The jet face will feel as if it has stopped but if you continue to turn the face, the jet internal will release from the body.
3) Check the inside of the jet body and the internal for any debris and calcium build up.
4) Wipe out the inside of the jet body, if necessary.
5) Wash the internal in your service sink. Scrub, gently, if necessary.
6) To re-install a jet internal line up the pin on the backside of the jet internal to the recessed, tapered groove in the face of the jet body. Press firmly until you hear the spring tabs latch into the body.

*If you find high levels of calcium build up or any discolouration of the jet internal when removed, you should take a spa water sample to your dealer for testing.*
MAINTENANCE

DIVERTER VALVE MAINTENANCE

If your spa has a water diverter valve, it is important that you conduct regular maintenance on it to ensure that it continues to move freely and does not begin to leak. The best time to do this maintenance is when you are doing a drain and refill.

1) If you unthread the cap (2), you can remove a number of parts that make up the moving assembly. These include the diverter (9), shaft (8), wear ring (7), O ring (6), cap (2) and handle (1). The moving handle is only a hand press fit, so you can take it apart easily.

2) Examine the surface of the diverter (9). If it has any scratches or score marks on it, there is debris, likely dirt or sand getting into your spa. If you do not stop this from happening, eventually the valve will seize and you will break off the handle or worse. This type of damage is not covered under warranty.

3) Sand the diverter(9) lightly to remove the scratches. Also clean out any debris inside the body (11). From inside the spa you will only be able to see the inside of the body (11), the top threads and the body O ring (10).

4) Examine the body O ring (10). This O ring seals the cap (2) to the body (11). Remove any debris that could hinder it from sealing properly when reinstalled. Check for areas that are cut or pinched. Pinched areas may be fixed by placing the O ring in hot water for a few minutes and then allowing it to cool down. Cut or broken O rings should be replaced.

5) If you remove the handle (1) and cap (2) from the moving assembly you took out, you will be able to see the O rings (6) and the wear ring (7). Make sure these parts are there. They seal the shaft (8) as it passes through the cap (2). Do the same inspection/replacement as you did for the body O ring (10).

6) If any of the O rings are dry or hard, you can use a small amount of silicone based lubricant to make them pliable again. DO NOT use Vaseline or any other petroleum based product on the O rings.

7) Reassemble the moving assembly and insert it back into the body (11). As you tighten the cap (2) move the handle (1) slightly to ensure that the cutout on the bottom of the diverter(9) is lined up to the sidewall tab that is in the bottom of the body(11). You may want to look at these (2) areas for reference before you re-install the moving assembly.

8) Tighten the cap (2) hand tight only. On spa start up check the outer cap edge and inner handle for leaks. **Reminder: Never adjust the diverter valve setting while the pump is running. This puts stress on the internal parts of the valve and could cause breakage or leaking to occur.**

Owner's Manual
WATER FEATURE MAINTENANCE

The angled water "shooters" on your spa may begin to shoot out in an irregular pattern much like the clogged aerator on your household faucet. This is due to minerals and debris in the spa water.

To clean the water shooters:
1. Remove the face(1) by turning it until the tabs on the face release from the body(7)
2. Use a pair of needlenose or other thin pliers to pull the stream straightner assembly(2, 3, 4) out of the body(7)
3. Hold the assembly under a hard stream of water to remove any trapped debris, particularly from the screen(4). DO NOT attempt to take the assembly apart.
4. Reassemble in reverse order
ABOUT THE FILTER SYSTEM

You need to inspect your filter’s cartridges regularly. It will need to be cleaned or replaced. Why do I need to examine/clean my cartridges regularly?

As your cartridges get dirtier they effect:
Heating of the spa water - operation of the pressure switch and error messages on the display
Water quality - change in the function of the ozone injection system resulting in a drop or complete stop to ozone draw into the spa water.

Rotating clean cartridges will keep your water clean and sparkling, reduce chemical consumption and down time due to cartridge cleaning.

"WHITETWATER" SKIM FILTER
Dual cartridges mounted vertically
50 sq. ft. - 8" (20 cm) high-Part #PPG-50PAD4

To access your filter cartridges:
1) Shut off your spa at the Ground Fault Circuit Interrupter (GFCI) or Residual Current Detector (RCD).
2) Remove the decorative top cover.
3) Remove each cartridge by simply grasping the handle and turning it until the tabs on the locking adapter line up with the slots in the end of the cartridge. Pull the cartridge straight up.
4) The blue adapter remains threaded into the through wall fitting mounted in the acrylic surface.
5) Reverse the procedure to install new or cleaned cartridges. The adapter has a shoulder on it, which will stop the cartridge from being pushed on too far.

CLEANING YOUR CARTRIDGE FILTER
1) Remove large debris by separating cartridge folds and spraying with a stream of water. Your kitchen or laundry sink is useful for this.
2) Contaminants that cause the cartridge to become brownish or greyish in colour require soaking overnight in specially formulated cartridge cleaner (available from your dealer).
3) Use a large plastic pail and follow the package directions. For safety reasons, you should locate your soaking pail out of reach of children.
4) Rinse the cartridge thoroughly to remove all the cleaner.
5) Allow cleaned cartridge to dry completely before re-using.
6) Spread pleats and run a soft brush through each one individually to complete the cleaning process.

SPECIAL NOTE: Several replacement cartridges look similar. Using the wrong cartridge may cause problems. Ask your dealer for the code that identifies your cartridge and record it.
ABOUT THE FILTER SYSTEM

"WHITEWATER" SKIM FILTER
Dual cartridge mounted horizontally
25 sq.ft. -7"(17.8cm) high-Part #PSN-25

To access your filter cartridges:

1) Shut off your spa at the Ground Fault Circuit Interrupter (GFCI) or Residual Current Detector (RCD).
2) Remove the decorative top cover and hold the weir gate up.
3) Each cartridge is mounted on an adapter that is threaded into a through wall cartridge mount.
4) Pull each cartridge forward off the adapter. The adapter can remain threaded into the cartridge mount.

Owner's Manual
ABOUT THE FILTER SYSTEM

"DYNA FLO" SKIM FILTER
50 sq.ft. -13 1/4"(24cm) high-Part #PRB-50IN

To access your filter cartridge:

1) Shut off your spa at the Ground Fault Circuit Interrupter (GFCI) or Residual Current Detector (RCD).
2) Grab the lock ring by one of the (4) raised tabs and turn to unlock the ring from the filter body.
3) Remove the lock ring and floating weir (not used in 636 Sunspot). Set aside.
4) Lift the basket out of the filter body. Dump out any debris and set aside.
5) Now the cartridge will be visible and can be easily removed.
DRAINING YOUR SPA & WINTERIZING

KNOWING WHEN TO DRAIN
Dissolved solids from bather load and ongoing chemical treatment accumulate in your spa water. The early sign of a high level of dissolved solids is unmanageable cloudy water.

When in doubt, remember that the best chemical for your spa is fresh water!

HOW TO DRAIN YOUR SPA
1) Turn down the thermostat on your spa and allow adequate time for the water to cool down. Uncover and run high speed pump to speed up cooling.
2) Turn power off to your spa.
3) Attach the appropriate size hose to the drain connection (see below)
4) Route the hose to an appropriate drain location.
5) When the drain is opened the spa will gravity drain, even unattended.
6) As draining proceeds, move water from contours of seats, into the footwell. Draining will stop due to drain height.
7) Remove any remaining water with a shop vac, sponge and pail or simply dilute in your fresh fill.
8) Before refilling, clean spa surface as necessary.
9) Don't forget to close the drain before refilling.

If you want to speed up the draining process, simply use a submersible sump pump available through most hardware stores.

Drain Connections
On/Off drain valve
Located within the equipment area, this drain fitting accepts a garden hose connection. The extended drain line is flexible enough to pull it out from the equipment area for easier hose connection. To open simply turn the dial handle until it is parallel to the valve body.
Rotary Screw Drain (636 Sunspot only)
Located through the equipment base, this drain fitting accepts a garden hose connection. To open simply turn the outer perimeter counterclockwise until it stops. Then pull the assembly forward to open the inner drain valve.

WINTERIZING YOUR SPA
Cold climates, where danger of freezing exist, require special care on your part in order to prevent damage to the spa shell and equipment. If you plan to use your spa during the cold months, be sure your pump is running frequently enough to keep the water moving so that the heater will operate. It may be best to set your controls to keep the pump on low speed at all times. This will keep the water from freezing and the heater will come on as the temperatures drop.
Follow the procedure below to help prevent damage to your spa and related equipment:
1) Drain the spa of all water, as outlined in owner's manual. Shut off the spa's power supply.
2) Remove any remaining water with sponge. If you have a shop vac, try vacuuming as much water as possible out of the jets and spa shell. If you can not remove all of the water (especially from the air injectors) RV style or plumbing system anti-freeze should be added to the injectors.
3) Remove spa equipment system and pump for storage inside. If this is not practical, use the shop vac again to draw any water from the pump(s) casings. Remove lower casing drain plugs. Add anti-freeze to all pump housings.
4) The filter should be drained and cartridge removed and cleaned. Remove the filter cartridge and pour anti-freeze as mentioned earlier into the filter canister. Store the filter element in a room with above freezing temperatures.
5) Support the hard cover along the hinge with 2 by 4's across the spa. Lock your hard cover over the spa and cover entire spa with a tarpaulin. Block the tarp in place or staple to your cabinetry.
6) When you refill in the spring, remember to re-install any plugs that were removed. Follow the directions for start-up, as if this were a new spa.

Note: Any RV style or plumbing system anti-freeze used may leave behind a residue that could cause a white "fizz" in the first refill of water, especially when the jet pump(s) are turned on. You may need to drain and refill the spa to clear away the residue.
TROUBLESHOOTING YOUR SPA

Note: A large number of problems on start up can be attributed to mis-wiring and a poor understanding of how the spa operates and its' features. Take the time to read and understand this manual. If you have any questions contact your dealer and/or Paragon Spas.

| Probable cause #1: GFCI/RCD has tripped(shut off) |
| Action: Reset GFCI/RCD and monitor for futures trips. Alert dealer if problem persists |

GROUND FAULT CIRCUIT INTERRUPTER (GFCI) or RESIDUAL CURRENT DETECTOR(RCD) SHUTS OFF ON INITIAL START UP

| Probable cause: Mis-wiring of GFCI/RCD |
| Action: Contact electrician and dealer |

GROUND FAULT CIRCUIT INTERRUPTER (GFCI) or RESIDUAL CURRENT DETECTOR(RCD) SHUTS OFF( NOT ON INITIAL START UP)

Probable cause: One or more pieces of equipment is shorting to ground or total current draw exceeds GFCI/RCD rating
Action: Contact dealer: DO NOT use spa. Take measures to ensure others do not use spa.

SPA IS COMPLETELY "DEAD"( NO CIRCULATION AND NO DISPLAY ON TOPSIDE CONTROL PANEL)

Probable cause #1: GFCI/RCD has tripped(shut off)
Action: Reset GFCI/RCD and monitor for futures trips. Alert dealer if problem persists

Probable cause #2: Breaker or fuse before GFCI/RCD is tripped or blown
Action: Shut off GFCI/RCD, reset breaker or replace fuse, reset GFCI/RCD and test. Contact electrician or dealer if problem persists.

Probable cause #3: Transformer fuse blown in spa pack
Action: Locate fuse in spa pack, test and/or replace. Or contact dealer for service.

Probable cause #4: Insufficient line voltage to power up spa pack processor
Action: Contact electrician to measure line voltages and inspect supply connections.

NO HEAT OR HEAT TOO LOW

Probable cause #1: Set point is not at desired level
Action: Review set point and change if necessary.

Probable cause #2: Circ pump is not running/pumping
Action: Check if valves on circ pump/heater system are open( handle pulled up exposing valve shaft. Safety clips should be in place to prevent valve closure). Check if circ pump is plugged in or if circ pump fuse in spa pack is burnt out.

Probable cause #3: Spa is not covered when not being used
Action: Cover spa to retain heat

Probable cause #4: Heater is not on due to error message( 3 flashing dots, FLO or FLC on display)
Action: Check for open gate valves on equipment, correct low water level in spa, examine condition of filter cartridge(s). Turn spa power off then back on. Monitor for reoccurring error message on display. Contact dealer if problem persists.

Probable cause #5: System current mode is restricting heater operation
Action: Limit jet pump use to (1) 20-minute cycle or consult dealer/electrician on requirements to allow operation in high current mode.

Probable cause #6: Lack of insulation in a custom installation
Action: Protect underside of spa from prevailing cold winds or snow. Enclose custom installations.

Probable cause #7: Temperature probe is not in installed in sensing well
Action: Look for probe barrel (silver) laying in equipment area. Insert into sensing well and secure with split rubber grommet. Monitor temperature level.

Owner's Manual
**TROUBLESHOOTING YOUR SPA**

**JET(S) DO NOT COME ON WHEN PUMP KEY IS PRESSED**

Probable cause #1: Jet pump is not plugged into spa pack.
Action: Plug pump in and test.

Probable cause #2: Jet pump fuse blown in spa pack
Action: Locate & test/replace pump fuse in spa pack. Contact dealer if problem persists.

Probable cause #3: Jet pump is not primed
Action: Shut off spa and allow trapped air to escape. Restart spa & check jet pump operation. If problem persists bleed air at pump directly by opening union on pump until all entrapped air is released. Retest.

Probable cause #4: Individually adjustable volume jets are adjusted to low volume
Action: Turn face of specific jet to increase water volume.

Probable cause #5: Air control is closed. No visible air/ water mix
Action: Open air control to increase air / water mix

Probable cause #6: Pump has overheated and tripped internal thermal overload
Action: Wait for pump to cool & listen for "snap" sound as overload resets. Pump should restart. Contact dealer if problem persists.

Probable cause #7: Pump is not pumping due to broken part inside( motor works, pump is primed but there is no water movement from pump)
Action: Contact dealer for service.

**AIR INJECTORS DO NOT BUBBLE WHEN BLOWER KEY IS Pressed**

Probable cause #1: Air blower is not plugged in to spa pack.
Action: Plug blower in and test.

Probable cause #2: Blower fuse blown in spa pack
Action: Locate and test/replace blower fuse in spa pack. Call dealer if problem persists

Probable cause #3: Air blower disconnected from blower plumbing
Action: View blower plumbing and reconnect if disconnected. Test

Probable cause #4: Air blower has overheated and thermal overload has tripped.

**LED LIGHT(S) DO NOT COME ON WHEN LIGHT KEY IS PRESSED.**

Probable cause #1: Light fuse blown in spa pack
Action: Locate and test/replace light fuse in spa pack Call dealer if problem persists.

Probable cause #2: In -line or on board fuse blown in LED controller
Action: Locate and test/replace light fuse in LED control box.

**NO AIR /WATER MIXTURE COMING FROM A JET**

Probable cause #1: Air control is closed
Action: Open air control

Probable cause #2: Water volume through jet is too low to draw air
Action: Increase water volume by turning jet face

Probable cause #3: Adjustable jet internal is loose.
Action: Tighten jet internal

Probable cause #4: Jet internal is broken or damaged
Action: Replace jet internal with another one from the spa or with a new one.

Probable cause #5: Debris inside the jet internal
Action: Remove the internal, inspect for debris, remove debris and re-install. Test
TROUBLESHOOTING YOUR SPA

HOW TO CHECK A FUSE

Note: You should only remove/check a fuse if you feel comfortable doing so. Do not risk personal injury. If in doubt, contact your service technician.

Small glass fuses
1) Shut off power to the spa.
2) Use a small screwdriver or pliers to gently remove the fuse from its' fuse holder.
3) View the filament inside the fuse and replace if broken.
4) Use an ohmmeter to check the fuse. Ohms reading should be towards 0 ohms. A reading of infinity means the fuse is open and must be replaced.

Cartridge fuses
1) Shut off power to the spa.
2) Use pliers to remove the fuse from its' fuse holder.
3) Replace fuse and test system.

These types of fuses are available from your Sunrise Spas dealers and may be available from local electronic stores and home centres. Each fuse has a voltage and amp rating listed on it and should be used to obtain a replacement fuse.

WARRANTY SERVICE

In the event that you require warranty service, please call the authorized Sunrise Spas dealer where you purchased the spa. Your dealer has trained service personnel and an obligation to provide you with excellent after-sales service. Sunrise conducts yearly training classes to update and refresh technicians. If you need further information or would like to comment on your dealer, please call 1-905-309-1800 Monday to Friday from 8:30 AM ET to 5:00 PM ET or visit our website at www.sunrisespas.com

BEFORE CONFIRMING A SERVICE APPOINTMENT

Have ready the serial number and model number/name of your spa, your date of purchase and store receipt. The spa model and serial number information can be found on the silver and black data plate attached to the lower right corner on the equipment side of the spa. It is also located on the SPA ID. Sheet that is within a plastic bag stapled to the backside of the equipment panel.