

ESTABLISHING THE STANDARD

L.A. Spas



2003 OWNERS MANUAL

Celebrating 27 years in hot water --- Established 1976

CONGRATULATIONS!

You are the proud owner of one of the finest spas available. Please take the time to read these instructions carefully. When the spa is properly installed and maintained, your spa will provide years of enjoyable, trouble free operation.

Every effort has been made to ensure the accuracy of this owner's manual, however, LA Spas reserves the right to modify and improve the product without notice. This may create minor variations between this manual and your spa. If you have any questions regarding your spa or the owner's manual, please contact your authorized LA SPAS dealer. We apologize for any inconvenience this may cause.

SAVE THESE INSTRUCTIONS

SERIAL NUMBER LOCATION

The serial number is located in the lower right corner of the front access panel.

PLEASE FILL IN THE INFORMATION BELOW AND KEEP FOR FUTURE REFERENCE

Name of Purchaser	Date of Purchase	
Address		
City	State	Zip Code
Spa Model	Spa Color	Spa Serial #
Store Name		
Store Address	Telephone	
City	State	Zip Code

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Read the entire owner's manual & safety instructions before operating the spa.

When installing the spa, basic safety precautions should always be followed, including the following:

- 1) **WARNING:** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times by adults.
- 2) **WARNING:** 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 (1.5 m) of the unit.
- 3) **DANGER: RISK OF ACCIDENTAL DROWNING:** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this spa unless they are closely supervised at all times by adults.
- 4) **DANGER: RISK OF INJURY.** The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure to replace with same model suction fittings for safety and compatible flow rates.

NEVER OPERATE THE SPA IF THE SUCTION FITTINGS ARE BROKEN OR MISSING. NEVER REPLACE A SUCTION FITTING WITH ONE RATED LESS THAN THE FLOW RATE MARKED ON THE ORIGINAL SUCTION FITTINGS.

- 5) **DANGER: RISK OF INJURY.** Do not remove suction grate. Suction through drains and skimmers are powerful when the jets in the spa are in use. Damaged suction grate can be hazardous to children and adults with long hair. Should any part of the body or hair be drawn into these fittings or stuck onto the fittings turn off the spa immediately. As a precaution, long hair should NOT be allowed to float freely in the spa.
- 6) **DANGER: RISK OF ELECTRIC SHOCK.** Install at least 5 feet (1.5M) from all metal surfaces. As an alternative a spa may be installed within 5 feet (1.5M) of metal surfaces if, in accordance with the National Electrical Code, each metal surface is permanently connected by a minimum No. 8 AWG (8.4 mm²) solid copper conductor to the wire connector on the terminal box that is provided for this purpose.
- 7) **DANGER: RISK OF ELECTRIC SHOCK.** Do not permit any electric appliance, such as a light, hair dryer telephone, radio, or television, within 5 feet (1.5 m) of the spa. Never operate any electrical appliances from inside the spa or while wet.
- 8) **WARNING** – To reduce the risk of injury:
 - a) The water in a spa should never exceed 40°C (104°F). Water temperatures between 38°C (100°F) and 40°C (104°F) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when spa use exceeds 10 minutes.
 - b) Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant women should limit spa water temperatures to 38°C (100°F).
 - c) Before entering a spa, the user should check the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices can vary and not reflect the proper temperature.
 - d) The use of alcohol, drugs, or medication before or during spa use is prohibited and may lead to unconsciousness with the possibility of drowning.
 - e) Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a spa.

- f) Persons using medication should consult a physician before using a spa since some medication may induce drowsiness while other medications may affect heart rate, blood pressure, and circulation.
- 9) Do not use spa immediately after strenuous exercise.
- 10) Maintain water chemistry as is recommended by your local LA Spas Authorized Dealer.

HYPERTHERMIA:

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above normal body temperature of 98.6 °F.

THE SYMPTOMS OF HYPERTHERMIA INCLUDE:

- ❖ Dizziness
- ❖ Fainting
- ❖ Drowsiness
- ❖ Lethargy
- ❖ Increase in internal body temperature

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
- ❖ Unconsciousness resulting in a danger of drowning

SPA SAFETY PRECAUTIONS:

- a) Always enter and exit a spa slowly.
- b) Do not use the spa alone.
- c) Before entering the spa, always measure the water temperature with an accurate thermometer. Tolerance of water temperature regulating devices can vary as much as $\pm 5^{\circ}\text{F}$ (3°C). Always check the spa water temperature before entering.
- d) Since excessive water temperature has a high potential for causing fetal damage during early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 100°F (38°C). Always consult your doctor prior to using a spa.
- e) Children's body temperature can increase more rapidly than adults in the same water with elevated temperatures (above 99°F). Children should spend less time in water above body temperature than adults.
- f) The use of alcohol, drugs, and/or medication before or during spa use may lead to unconsciousness, hypothermia, serious injury or the possibility of drowning.
- g) Persons suffering from obesity or with a medical history of heart disease, diabetes, high or low blood pressure, or circulatory system problems should consult with their physician before using the spa.
- h) Persons on medication should consult with their physician before entering the spa since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.
- i) People with infections, sores, or skin abrasions should not use the spa. Warm and hot water temperatures may allow the growth of infectious bacteria if not properly disinfected.
- j) Test the GFCI (Ground Fault Circuit Interrupter) unit before each use. (Refer to instructions provided by GFCI manufacturer.)
- k) Do not service or repair any equipment without making sure the circuit breaker and/or all power to the spa is off.
- l) Cover must be kept on the spa at all times when not in use and locked, especially if children are present.

SAFETY SIGN

Each spa has been provided with a warning sign that outlines safety precautions. This sign should be permanently placed in a location that is visible to all spa users. This sign has been mounted permanently to the front of the spa. Replacement signs can be obtained from:

LA Spas
1311 N. Blue Gum Street
Anaheim, CA 91806

CAUTIONS

- 1) Persons suffering from heart disease, diabetes, high or low blood pressure, any condition requiring medical treatment, pregnant women, the elderly, or infants should consult with a physician before using a spa.
- 2) The Consumer Product Safety Commission has stated that the water temperature in a spa or hot tub should not exceed 104°F. Immersion in water in excess of 104°F can be hazardous to your health.
- 3) Observe a reasonable time limit when using the spa. Long exposures at higher temperatures can cause high body temperature. Symptoms may include dizziness, nausea, fainting, drowsiness, and reduced awareness. These effects could result in possible drowning.
- 4) Do not use the spa under the influence of alcohol, narcotics, or other drugs. Use of the spa under these conditions may lead to serious consequences.
- 5) Always test the spa water temperature before entering the spa. Enter and exit the spa slowly. Wet surfaces can be very slippery.
- 6) Never bring any electrical appliance into or near the spa. Never operate any electrical appliance from inside the spa or when you are wet.
- 7) Proper chemical maintenance of spa water is necessary to maintain safe water and prevent possible damage to spa components.
- 8) Use the spa straps and clip tie downs to secure the cover when not in use. This will help to discourage unsupervised children from entering the spa and 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.

SAFETY DEVICES

Your spa is equipped with the following safety features:

- 1) Over Heat Protection -- An electronic high limit switch, located in the spa water, that shuts off the heater, pumps and accessories when the water temperature exceeds 112°F. This function resets when the spa water temperature drops below 109°F.
- 2) Heater High Limit Protection -- An electronic high limit switch, located on the heater barrel, which turns off the heater and low speed pump if it senses a temperature of 118°F or greater. Power to the spa must be interrupted to reset this safety device.
- 3) Heater Dry Run Protection -- A water flow sensor that prevents the heater from turning on until there is sufficient water flow.
- 4) Pump Dry Run Protection -- If the pump runs for 10 minutes and flow is not detected the pump is turned off.
- 5) Smart Winter Mode -- This freeze protection system will activate the jet pumps for 1 minute every 2 hours or less when the temperature in the equipment compartment drops to 55°F or less. Once the freeze protection system has started, it will remain active for a 24-hour period.

Automatic Pump and Light Time Out – This is an automatic, built-in timer that turns off the spa jet pump(s), air blower (optional on some models) and spa light after 30 minutes of operation.

CANADIAN INSTALLATIONS
IMPORTANT SAFETY INSTRUCTIONS
CSA SAFETY INFORMATION

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

READ AND FOLLOW ALL INSTRUCTIONS

- 1) A 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 supplying this equipment.
- 2) 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 hot tub or spa to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG.
- 3) All field-installed metal components such as rails, ladders, drains or other similar hardware within 3 meters of the spa or hot tub shall be bonded to the equipment grounding bus with copper conductors not smaller than No. 6 AWG.

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

AVERTISSEMENT: NE PAS LAISSER LES ENFANTS UTILISER UNE CUVE DE RELAXATION SANS SURVEILLANCE.

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

AVERTISSEMENT: POUR EVITER QUE LES CHEVEUX OU UNE PARTIE DU CORPS PUISSENT ETRES ASPIRES, NE PAS UTILISER UNE CUVE DE RELAXATION SI LES GRILLES DE PRISE D'ASPIRATION NE SONT PAS TOUTES EN PLACE.

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

AVERTISSEMENT: LES PERSONNES QUI PRENNENT DES MEDICAMENTS OU ONT DES PROBLEMES DE SANTE DEVRAIENT CONSULTER UN MEDECIN AVANT D' UTILISER UNE CUVE DE RELAXATION.

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

AVERTISSEMENT: LES PERSONNES ATTEINTES DE MALADIES INFECTIEUSES NE DEVRAIENT PAS UTILISER UNE CUVE DE RELAXATION.

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

AVERTISSEMENT: POUR EVITER DES BLESSURES, USER DE PRUDENCE EN ENTRANT DANS UNE CUVE DE RELAXATION ET EN SORTANT.

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

AVERTISSEMENT: POUR EVITER L'EVANOUISSEMENT ET LA NOYADE EVENTUELLE, NE PRENDRE NI DROGUE NI ALCOOL AVANT D'UTILISER UNE CUVE DE RELAXATION NI QUAND ON S'Y TROUVE.

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

AVERTISSEMENT: LES FEMMES ENCEINTES, QUE LEUR GROSSESSE SOIT CONFIRMEE OU NON, DEVRAIENT CONSULTER UN MEDECIN AVANT D'UTILISER UNE CUVE DE RELAXATION.

WARNING: Water temperature in excess of 38° C may be injurious to your health.

AVERTISSEMENT: IL PEUT ETRE DANGEREUX POUR LA SANTE DE SE PLONGER DANS DE L'EAU A PLUS DE 38 °C.

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

AVERTISSEMENT: AVANT D'UTILISER UNE CUVE DE RELAXATION MESURER LA TEMPERATURE DE L'EAU A L'AIDE D'UN THERMOMETRE PRECIS.

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

AVERTISSEMENT: NE PAS UTILISER UNE CUVE DE RELAXATION IMMEDIATEMENT APRES UN EXERCICE FATIGANT.

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

AVERTISSEMENT; L'UTILISATION PROLONGEE D'UNE CUVE DE RELAXATION PEUT ETRE DANGEREUSE POUR LA SANTE.

WARNING: Do not permit electric appliances (such as a light, telephone, radio, television, etc.) within 1.5m of this spa or hot tub.

AVERTISSEMENT: NE PAS PLACER D'APPAREIL ELECTRIQUE (LUMINAIRE, TELEPHONE, RADIO, TELEVISEUR, ETC.) A MOINS DE 1.5 M DE CETTE CUVE DE RELAXATION.

CAUTION: Maintain water chemistry in accordance with manufacturer's instructions.

ATTENTION: LA TENEUR DE L'EAU EN MATIERES DISSOUTES DOIT ETRE CONFORME AUX DIRECTIVES DU FABRICANT.

HYPERTHERMIA

Prolonged immersion in hot water may induce hyperthermia. A description of the cause, 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 37°C. The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body. The effects of hyperthermia include:

- 1) Unawareness of impending hazard
- 2) Failure to perceive heat
- 3) Failure to recognize the need to exit spa
- 4) Physical inability to exit spa
- 5) Fetal damage in pregnant women
- 6) Unconsciousness and danger of drowning

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

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

SAVE THESE INSTRUCTIONS

INSTALLATION INSTRUCTIONS

Read all instructions in this manual prior to having your spa installed at the selected location, whether indoors or outdoors. **IMPROPER INSTALLATION MAY RESULT IN EQUIPMENT DAMAGE AND VOID THE WARRANTY.**

Surface And Pad Requirements:

- 1) Your new spa ***MUST BE PLACED ON A 4" THICK REINFORCED CONCRETE PAD.*** Ensure that the concrete has cured for at least one week before setting the spa in place. A typical spa, filled with water, could weigh as much as 2.5 tons, and if the concrete is not fully cured, it could easily crack. ***AN UNEVEN OR CRACKED PAD OR THE USE OF SHIMS OF ANY KIND MAY CAUSE THE SPA TO BUCKLE, DISTORT AND/OR CRACK AND WILL VOID THE WARRANTY ON YOUR SPA.***
- 2) If your spa is located near water sprinklers, adjust or cap them so the water will not hit the wood cabinet of the spa.
- 3) Balconies and decks must be constructed to current state and local codes to safely support the maximum load of your water filled spa and the number of people using the spa. Check with your construction contractor for these safety specifications.
- 4) Gates must be self-closing and self-locking. Check your local codes for regulations regarding fences and gates.
- 5) Ensure that the spa installation and location allows a clear and unobstructed access to the spa. It is the responsibility of the owner to provide clear access on ***all sides*** of the spa for service. Failure to do so may result in additional charges or assessments to service and/or repair the spa.
- 6) Ensure that water drains away from the spa in order to keep water out of the equipment compartment and away from all electrical components.

Electrical Installation Requirements:

IMPROPER INSTALLATION MAY RESULT IN EQUIPMENT DAMAGE AND VOID THE WARRANTY

NOTE: Do not turn on electrical power to your spa until you are told to do so later in the owners manual.

- 1) We strongly recommend that only a licensed and bonded electrician perform the electrical installation. Improper electrical connections may damage the equipment, cause injury, cause a fire, and void your spa warranty.
- 2) It is the responsibility of the spa owner to ensure that a qualified electrician performs the electrical installation. This installation must be in accordance with the National Electrical Code; local and state electrical codes; and the manufacturer's instructions.
- 3) This equipment has been designed to operate on 240 volts, 60 Hz alternating current.
- 4) The spa must be connected to a dedicated branch circuit.
- 5) The electrical supply for this spa must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with Section 422-20 of the National Electric Code (NEC). A disconnect switch must be located where visible, not less than 5 feet from the spa and not to exceed 50 feet from the spa. This requirement may be filled with the GFCI circuit breaker and sub-panel.
- 6) The electrical circuit to the spa must include a Class A type Ground Fault Circuit Interrupter (GFCI) as required by the NEC.
- 7) All supply wires must be copper and rated at a minimum 90°C.
- 8) Input Power Wiring and Circuit Breaker Selection:

HC Mode

Equipment type	Electrical Rating	Branch Circuit	Circuit Breaker	Wire Size
1 pump	240V 32A	3 Wire + ground	40A	#8 AWG
1 pump with blower	240V 40A	3 Wire + ground	50A	#6 AWG
2 pumps	240V 40A	3 Wire + ground	50A	#6 AWG
2 pumps with blower	240V 48A	3 Wire + ground	50A	#6 AWG
3 pumps	240V 48A	3 Wire + ground	50A	#6 AWG

LC Mode

Equipment type	Electrical Rating	Branch Circuit	Circuit Breaker	Wire Size
1 pump	240V 24A	3 Wire + ground	30A	#10 AWG
1 pump with blower	240V 24A	3 Wire + ground	30A	#10 AWG
2 pumps	240V 24A	3 Wire + ground	30A	#10 AWG
2 pumps with blower	240V 32A	3 Wire + ground	40A	#8 AWG
3 pumps	240V 32A	3 Wire + ground	40A	#8 AWG

The Equipment Type column does not include the circulation pump.

A jumper in the equipment control box configures the Mode. In the HC Mode the heater will operate with everything on in the spa and in the LC Mode the heater turns off if either pump is in high speed or if the blower is turned on.

To hook-up your spa, follow these instructions:

- 1) Remove the screws holding the equipment access panel to the front of the spa cabinet and set the panel aside.
- 2) Loosen the 2 screws on the bottom front of the equipment control enclosure.

- 3) Use ¾" flexible, non-metallic conduit for a spa requiring #10 AWG or #8 AWG wire or 1" flexible non-metallic conduit for a spa requiring #6AWG wire. Run the conduit from the power source to the spa, through the hole in the left or right front corner and into the equipment control box.
- 4) After pulling all four wires through the conduit and into the equipment control box, connect them to the proper terminals as indicated by the wiring diagram on the lid of the equipment control box.
- 5) Configure the jumpers to the correct position as indicated by the wiring diagram on the lid of the equipment control box. Make sure the wires are properly tightened.
- 6) Close the lid on the equipment control box and secure with the two screws.
- 7) Electrical hook-up is now complete. Do not replace the equipment door yet.

INITIAL START-UP PROCEDURES

DO NOT TURN ON THE POWER TO THE SPA WHEN THE SPA IS PARTIALLY FILLED OR EMPTY.

- 1) Ensure that the circuit breaker to the spa is off.
- 2) Rotate all the jets in the spa to a counter clockwise position --fully open position.
- 3) If the spa is equipped with gate valves (a "T" handle located near the jet pumps), ensure that the "T" handle is pulled "up" or open. When opened, there will be approximately 2" of metal rod visible. Spas with 1 pump will have 2 valves and spas with 2 pumps will have 4 valves.
- 4) Check the pump unions to be sure that they are tight to prevent the possibility of leakage in the equipment bay.
- 5) Close and cap the hose bib located in the center of the equipment compartment. This is used for draining the spa.
- 6) Fill the spa with water to a level of approximately 4 inches above the top of the filter cartridge.
- 7) Turn on the circuit breaker. The water temperature will be flashing on the upper control panel. Set the desired temperature by using the up or down keys.
- 8) Push the jets 1 keypad to turn on the low speed pump. On units not equipped with the Ultimate Water Management System, the low speed of pump one and the heater will turn on automatically. Check to ensure that water is coming out of some of the jets. Push the jets 1 keypad and the pump will turn on high speed. Observe to ensure adequate water flow. Push the jets 2 key pad and pump 2 will turn on high speed. Observe to ensure adequate water flow.
DO NOT ALLOW THE PUMPS TO RUN FOR MORE THAN 1 MINUTE WITHOUT WATER FLOWING FROM THE JETS. PUMPS WITH DRY RUN PROBLEMS WILL NOT BE COVERED UNDER WARRANTY. If there is no water flow through the jets, the pumps need to be primed.

PUMP PRIMING

- Turn off the power to the spa.
 - Remove the handle from the jet selector valve supplied by the pump you are priming.
 - Loosen the massage selector's cap slightly (counterclockwise), listening for the air to seep out.
 - Tighten the cap finger-tight, replace the handle and turn the spa's power back on.
- 9) On units equipped with the Ultimate Water Management System, check to ensure that water is flowing through the system. Observing the foot well for bubbles will determine if there is flow. If there are no bubbles, turn off the spa, disconnect the hose above the circulation pump and allow any trapped air to escape.
 - 10) Re-attach the equipment access panel.
 - 11) Depending upon the size of the spa and the size of the electrical circuit, heating will occur at a rate of 5-12° F per hour.
 - 12) After completing the above steps, it is necessary to ensure proper water chemistry. See the Water Chemistry section in this manual.

13) Place the thermal cover on the spa to conserve energy and to keep it ready for use.

OPERATING INSTRUCTIONS

COMMAND CONTROL SYSTEM



This easy to use control has been pre-programmed to be “plug and play”. Turn the power on, adjust the desired temperature and the system is ready to go. If there are situations that require additional filtering time, the filter settings can be customized to any special requirements. Simple to use and easy to read, the Command Control System makes controlling the spa effortless.

HOW TO USE THE SPASIDE CONTROL CENTER

- 1) **JETS 1 KEY:** When the JETS 1 key is pushed the first time, the low speed of the spa jet pump is turned on. When the JETS 1 key is pushed a second time, the high speed of the spa jet pump is turned on. A ▲ symbol will appear in the upper part of the LED window below the jets 1 designator when it is in an on condition. Push the JETS 1 key a third time to turn the spa pump off. The spa jet pump can only run in a single mode. The JETS 1 key will activate a 30-minute automatic shut-off cycle (unless the spa is heating). If the spa is heating, pump 1 will run continuously at low speed until the pre-set temperature is reached. The set point light indicator will be on when the display is showing the water temperature set point. It will be off when the display is showing the actual water temperature. A new 30-minute cycle begins each time the JETS 1 key is pushed. This auto shut-off cycle is a safety device and also allows for convenient filtration, immediately after use of the spa.
- 2) **JETS 2 KEY** (If equipped): Push the JETS 2 key once to turn on the pump. Push the JETS 2 key a second time to turn the pump off. A ▲ symbol will appear in the upper part of the LED window below the jets 2 designator when the pump has been turned on. The JETS 2 key will activate a 30 minutes automatic shut-off. A new 30-minute cycle begins each time the JETS 2 key is pushed.
- 3) **JETS 3 KEY** (If equipped): Push the JETS 3 key once to turn on the pump. Push the JETS 3 key a second time to turn the pump off. A ▲ symbol will appear in the upper part of the LED window below the jets 3 designator when the pump has been turned on. The JETS 2 key will activate a 30 minutes automatic shut-off. A new 30-minute cycle begins each time the JETS 3 key is pushed.
- 4) **AIR KEY** (If equipped): Push the AIR key once to turn on the blower. Push the KEY a second time to turn the blower off. A ▲ symbol will appear in the upper part of the LED window below the air designator when it is in an on condition. The AIR key will activate a 30-minute automatic shut-off. A new 30-minute cycle begins each time the AIR key is pushed.
- 5) **LIGHT KEY:** Push the LIGHT key once to turn the light on. Push the LIGHT key a second time to turn the light off. A ▲ symbol will appear in the upper part of the LED window below the light designator when the light has been turned on. The light will automatically turn off after 30 minutes of continuous operation. A new 30-minute cycle begins each time the LIGHT key is pushed.
- 6) **LIGHT KEY** (for spas equipped with fiber optics): Push the LIGHT key once to turn the light and color wheel on. The light color will change continually. Push the LIGHT key a second time to turn the color wheel off and the light will remain on (the light color will stop changing). A ▲ symbol will appear in the upper part of the LED window below the

light designator when the light is on without the color wheel. The light will automatically turn off after 30 minutes of continuous operation. A new 30-minute cycle begins each time the LIGHT key is pushed.

- 7) SET TEMPERATURE KEYS:** Pushing the UP key increases the temperature and pushing the DOWN key decreases the temperature. Pushes the respective key one time for each degree of temperature change or hold the key down to adjust the temperature rapidly. The existing spa water temperature will remain in the digital display window until a temperature key is pushed. When the UP or DOWN key is pushed, the ▲ symbol appears below the set point designator and the numerical LED readout indicates the set temperature. Once set, the spa water temperature will be indicated in the LED readout. The spa will heat to the set temperature.

FITLTRATION

Spas equipped with The Ultimate Water Management System are pre-programmed to filter four times each day for 20 minutes. In most cases this is sufficient filtration. However, the number of cycles can be modified to 1, 2, 3 or 4 cycles per day and the cycle duration can be modified to 20, 30, 40, 50, or 60 (see below, Filter Cycle Duration) minutes per cycle. At the beginning of the each filtration cycle, pump one will run at high speed for 3 minutes and then at low-speed for 17 minutes. Pump 2 and the blower (if provided) will run at high speed for 1 minute and then turn off. In the factory pre-programmed mode, the second filtration cycle will begin six hours after the start of the first. In order to determine the start time for each filtration cycle subsequent to the first, simply divide the number of cycles selected into a 24-hour period. I.E. If the first cycle is set for 10:00 AM and you have selected 4 cycles, the second cycle will begin at 4:00 PM, the third at 10:00 PM and the fourth at 4:00 AM – a new cycle will begin every 6 hours. A ▲ symbol will appear in the upper part of the LED window below the filter designator when a filtration cycle is active. To cancel the cycle, push the JET key. If the jet pump is in low speed it will change to high speed. Push the JET key again and the pump will turn off unless the spa is in the heat mode. To prevent thermal creep (a rise in water temperature created by the pump – not the heater), whenever the water temperature reaches 2°F or greater than the set temperature, the filter cycle is limited to 1 hour per day regardless of the program setting.

Spas not equipped with The Ultimate Water Management System are preprogrammed to filter two times each day for 60 minutes. In most cases this is sufficient filtration. However, the number of cycles can be modified to 1, 2, 3 or 4 cycles per day and the cycle duration can be modified to 30, 60, 90, 120, 150, 180 or 240 minutes per cycle. For spas without the Ultimate Water Management System the choices are 30, 60, 90, 120, 150, 180 or 240. At the beginning of the each filtration cycle, pump one will run at high speed for 3 minutes and then at low-speed for 57 minutes. Pump 2 and the blower (if provided) will run at high speed for 1 minute and then turn off. The second filtration cycle will begin six hours after the start of the first. In order to determine the start time for each filtration cycle subsequent to the first, simply divide the number of cycles selected into a 24-hour period. I.E. If the first cycle is set for 10:00 AM and you have selected 4 cycles, the second cycle will begin at 4:00 PM, the third at 10:00 PM and the fourth at 4:00 AM – a new cycle will begin every 6 hours. A ▲ symbol will appear in the upper part of the LED window below the filter designator when a filtration cycle is active. To cancel the cycle, push the JET key. If the jet pump is in low speed it will change to high speed. Push the JET key again and the pump will turn off unless the spa is in the heat mode. To prevent thermal creep (a rise in water temperature created by the pump – not the heater), whenever the water temperature reaches 2° or greater than the set temperature, the filter cycle is limited to 1 hour per day regardless of the program setting..

PROGRAMMING THE COMMAND CONTROL SYSTEM

To initiate the programming sequence at any time, push and hold the LIGHT key for 3 seconds. If, within 10 seconds, you do not proceed with the spa programming, the spa will automatically exit the programming sequence and revert to the pre-set factory default settings. To exit the programming sequence at any time, do not push any key for 10 seconds. Any programming changes made up to that point would be saved.

FILTER CYCLE DURATION

Push and hold the LIGHT key for 5 seconds to engage the programming mode. Then, push the UP or DOWN key to cycle through the choices of 20, 30, 40, 50, or 60 minutes per cycle. For spas without the Ultimate Water Management System the choices are 30, 60, 90, 120, 150, 180 or 240. Once the desired duration is displayed, push the LIGHT key again to accept the selection and move to programming the Filter Cycle Frequency.

FILTER CYCLE FREQUENCY

To adjust the number of filter cycles per day, push the UP or DOWN to cycle through the number of filter cycles - 1, 2, 3 or 4. Once the desired number of filter cycles is displayed, push the LIGHT key again to accept the selection and move to programming the Economy Mode.

ECONOMY MODE

In economy mode, the heater will only turn on during a filtration cycle. For the first 24 hours after initial power up of the spa, the economy mode is disregarded.

To place the spa into the economy mode, push the UP or DOWN to select either Ec 0 or Ec 1. Ec 1 the spa is on and Ec 0 the economy mode is off. Once the desired mode is displayed, push the LIGHT key again to accept the selection and move to programming the Temperature Units.

TEMPERATURE UNITS

To adjust the temperature units, push the UP or DOWN to select either Fahrenheit (F°) or Celsius (C°). Once the desired temperature unit is displayed, push the LIGHT key again to accept the selection and exit the programming mode and establish the start time of the first filter cycle. At this time the first filter cycle will begin

NOTE: After power-up, the display will blink until a key is pushed. This feature is to alert you that there has been a power failure and the programming has reverted to their defaults.

COMMAND CONTROL SYSTEM LOCK AND UNLOCK

To help prevent unauthorized use of the spa, the Command Control System can be locked. When the system is locked, all system functions such as filter cycles and temperature regulation will operate normal but the control panel buttons will not function. The LED will display the message LOC. To lock and unlock the panel press all of the following keys within 3 seconds: JET1 key, LIGHT key, JET 1 key. Turning the power on and off will reset this function.

COMMAND CONTROL SYSTEM SUSPEND MODE

On occasion there will be a need to turn off your spa for maintenance such as changing water or cleaning filters. When the system is in the suspend mode all functions are turned off. The LED will display the message OFF. To place the control in the suspend mode hold down the JET1 key for 5 seconds. Push the JET 1 key for 5 seconds to turn the spa back on. The LED display will show the water temperature.

ULTIMATE WATER MANAGEMENT SYSTEM™

The Ultimate Water Management System™ (UWMS) is a comprehensive solution for maintaining crystal clear water, at the desired temperature, with minimal effort. At the heart of the system, a silent circulation pump with a flow rate of 5 GPM, filters, circulates, and ozonates 100% of the water continuously. When there is a requirement to add heat to the water, the circulation pump is used instead of the main jet pump, therefore the operation is completely silent and more economical.

Ensuring the highest level of energy efficiency, the Ultimate Heater converts all of the electrical energy into heating the water, unlike less efficient heating systems that must transfer the heat through a housing, before it is absorbed by the water. Complimenting high-energy efficiency, the UWMS uses an array of contact chambers and (12) mixing points to enhance the transfer of ozone into the water. No other water management system is as effective in transferring ozone into solution. The effective transfer of ozone into solution is the most critical attribute of a successful water management system.

To prevent temperature creep, if the spa water temperature is 1 degree greater than the set temperature, the circulation pump runs for 6 hours every 12 hours. If the spa water temperature is 2 degrees F greater than the set temperature, the circulation pump runs for 3 hours every 12 hours. Anytime the temperature is above 3 degrees or greater than the circulation pump will turn off until the water temperature returns to the set temperature. Note: Even in overheat condition, if a jet pump is turned on, the circulation pump will start and will remain on for another 30 minutes, after the jet pump has turned off.

JET SELECTOR VALVES

Your spa is equipped with a spa side selector valve. This valve can be used to divert jet power from one area in the spa to another. This valve is fully adjustable and can be used to suit the bather's desired affect. The valve may be difficult to turn when the spa pump is on high speed. This is normal and is caused by the high rate of water flow and pressure present in the valve. Two pump systems have two valves and one-pump systems have one valve.

AIR CONTROL VALVES

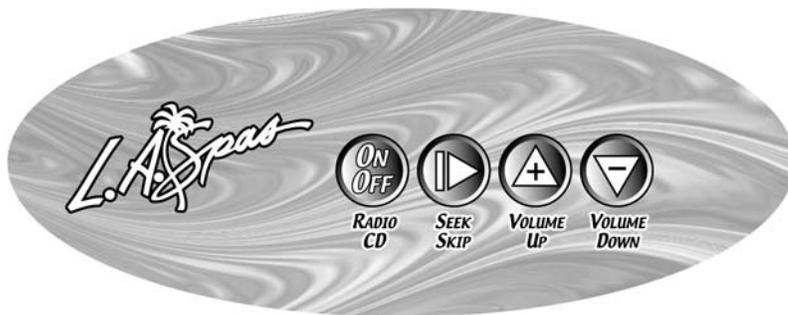
The air control is an on off valve that allows air to be introduced into a specific jetting configuration resulting in more vigorous jet action. Turn the valve handle clockwise to turn the air on and counter clockwise to turn the air off. Opening the valve increases jet pressure and closing the valve decreases the jet pressure.

WATERFALLS AND WATERFALL CONTROL VALVES

Your spa may be equipped with waterfalls. There will be one waterfall control valve for each waterfall. Turn the valve handle clockwise to turn the waterfall on and counter clockwise to turn the waterfall off. Waterfalls are always supplied by the JET 1 pump.

STEREO AND CONTROLS

Your spa maybe equipped with a stereo sound system and a spa side control panel. The stereo manufacturer's owner's manual is provided within the spa owner's manual. In addition to the following instructions, please refer to this manual for the operation of the stereo system.



HOW TO USE THE STEREO SPA SIDE CONTROL

On/Off (Radio/CD) The first press on the Radio/CD key will turn on the stereo radio. Once the stereo has been turned on, this key is used to toggle between the Radio or CD mode. To turn the stereo off, press the same key for more than 5 seconds.

Seek + / Skip + In the radio mode, the Seek+ key is used to automatically seek upward to the next radio station. Holding this key to increment the frequency selection. In the CD player mode, pressing and releasing the Skip+ key will move forward to the next track on the CD. Holding the Skip+ key will fast forward the track already playing. **Volume**

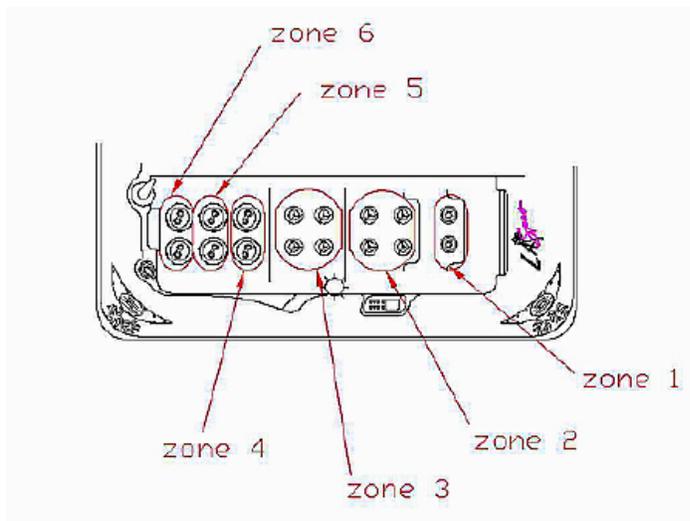
Volume+ The + key is used to increase the volume.

Volume- The - key is used to decrease the volume.

DYNAMIC JET SEQUENCER™

Sequencer feature benefits:

- The system has a variety of ten programmed sequences.
- The system controls 6 different zones and 14 total jets.
- The sequencer uses an auxiliary TSC-9 upper control panel – which is a standard panel built by Gecko.
- For ease of use, there is a directional sequence up key or down key.
- The pause key will select a desired zone to focus on a particular muscle group.
- The sequencer has three speeds of 5, 15 and 30 second durations.
- The system will automatically turn off 30 seconds after the jet pump turns off.



HOW TO USE THE DYNAMIC JET SEQUENCER

SEQUENCE UP/DOWN KEY These keys are used to select the type of massage to be performed by the system. A total of 9 different massages are preprogrammed in the system plus 1 where all of the valves are open. The following table shows the relationship between the massage mode and the valves.

Each press on the key will direct the sequence mode from one to another. The sequence number will be displayed on the keypad LED. Example: "SE 1" will be displayed in the LED and will blink for 5 seconds before the sequence begins.

To activate the selected massage sequence pattern, the user may leave the keypad untouched for 5 seconds, while the LED is blinking, and the system will then accept the new selected massage sequence pattern. The LED display will stop blinking and the new sequence will actuate the valves according to the selected pattern.

SPEED KEY This key is used to change the time duration between each step in a sequence. The default time duration is factory programmed for 5 seconds intervals. The first press of the speed key will change the step interval time to 15 seconds, the second press of the speed key will change the step intervals to 30 seconds, and the third press of the speed key will reset the speed to 5 second step intervals (default). This pattern will be repeated with each additional press of the speed key. An LED speed indicator, with three different blinking rates, will show the speed for which the system will operate. During a pause condition the speed LED indicator will be OFF.

PAUSE KEY This key is used to interrupt the massage sequence. For example, if the user likes the jet massage at a particular moment and wants to keep it for an extended period of time, the user simply presses the pause key to hold the sequencer in the specific configuration desired. The sequencer will resume automatic operation when the pause key is pressed a second time. An LED light indicator will show when the system is in the pause mode.

Sequencer Operation Matrix

Steps	1	2	3	4	5	6	7	8	9
1	100000	110000	111000	111110	101010	111111	100000	100000	110000
2	010000	011000	000111	111101	010101	111110	010000	110000	011000
3	001000	001100	111000	111011	101010	111100	001000	111000	001100
4	000100	000110	000111	110111	010101	111000	000100	111100	000110
5	000010	000011	111000	101111	101010	110000	000010	111110	000011
6	000001	110000	000111	011111	010101	100000	000001	111111	000011
7	000001	011000	111000	111110	101010	111111	110000	011111	000110
8	000010	001100	000111	111101	010101	011111	011000	001111	001100
9	000100	000110	111000	111011	101010	001111	001100	000111	011000
10	001000	000011	000111	110111	010101	000111	000110	000011	110000
11	010000	110000	111000	101111	101010	000011	000011	000001	100001
12	100000	011000	000111	011111	010101	000001	100001	000000	010001
13	100000	001100	111000	111110	000111	111111	111110	100000	010010
14	010000	000110	000111	111101	111000	111011	100000	110000	001010
15	001000	000011	111000	111011	000111	110011	010000	111000	001100
16	000100	110000	000111	110111	111000	110001	001000	111100	010100
17	000010	011000	111000	101111	000111	100001	000100	111110	010010
18	000001	001100	000111	011111	111000	100000	000010	111111	100010
19	000001	000110	111000	111110	000111	000001	000001	011111	100001
20	000010	000011	000111	111101	111000	100001	110000	001111	010010
21	000100	110000	111000	111011	000111	110001	011000	000111	001100
22	001000	011000	000111	110111	111000	110011	001100	000011	001100
23	010000	000110	111000	101111	000111	111011	000110	000001	010010
24	100000	000011	000111	011111	111000	111111	000011	000000	100001

Each digit represents the state of a valve. Each valves state is described above. A 1 means the valve is open and a 0 means that the valve is closed.

Water Chemistry

Maintaining proper water chemistry is imperative to maintaining safe water and preventing possible damage to your spa and spa components.

START-UP PROCEDURES:

- 1) Fill spa to correct level (approximately 4 inches above the top of the filter cartridge).
- 2) Add stain and scale control, or a similar sequestering agent, such as Metal Gon.
- 3) Test and adjust total alkalinity - run pump for 1/2 hour.
- 4) Test and adjust pH- run pump for 1/2 hour.
- 5) If sanitizing with bromine - add sodium bromide with jets running - see "bromine" in this section.
 - a. Fill and set bromine floater or adjustable bromine feeder and place in the spa water.
 - b. Shock water with potassium peroxydisulfate (such as "Renew") with jets running.
- 6) If sanitizing with chlorine - use only a granular "Dichlor" compound. On start up of spa, turn on all jets, add 1 oz. per 500 gal. spa water. Check free available chlorine (FAC) to attain 2-3 PPM. Repeat if needed. For regular use, turn jets on, scatter 1/2 oz. per 500 gal. to spa water to maintain 2-3 PPM of FAC. (See "chlorine" section for more information on chlorine.
- 7) Run pump for 1/2 hour.

WATER QUALITY:

Your LA Spa is equipped with a cartridge filter system. Filtering the water helps maintain water cleanliness and clarity. While the filter traps most solid materials, it is still necessary to add a sanitizer such as chlorine or bromine to the water in order to control bacteria, algae, and to oxidize any organic materials in the water. Do not se peroxide based chemicals.

We recommend that you purchase your chemicals from your authorized LA Spas dealer. The dealer can also advise you on alternative methods for water sanitation. **Use of the wrong chemicals can be dangerous and may void the warranty on your spa.**

WATER TESTING:

It is recommended that you test your spa water regularly with an accurate test kit or test strips. These are available from your authorized LA Spas Dealer. Be sure to follow the chemical manufacturer's instructions for chemical use.

pH CONTROL:

All water has a pH value which is a measure of the acid to alkaline relationship. While a pH reading of 7.0 is considered neutral (pH is derived from a 14 point scale with 7.0 being neutral) a lower reading is considered acidic and a higher reading is alkaline. The proper pH for spa water is between 7.2-7.8. High pH (above 7.8) can reduce sanitizer efficiency, cloud the water, promote scale formation on spa surface and equipment and interfere with filter operations.

When pH is too high, add a pH decriaser. Low pH (below 7.2) is equally damaging and can cause equipment corrosion, water that is irritating and rapid sanitizer dissipation. Add pH increaser to adjust the level. **Follow the chemical manufacturer's directions and procedures when adding chemicals to spa water.**

Note: *Always add pH adjuster with jets operating and circulate all chemicals for at least 30 minutes. Remember that good pH control and sanitation are absolutely essential for proper spa water treatment.*

SANITIZER:

The importance of maintaining adequate level of sanitizer in your spa cannot be overemphasized. Warm water presents a fertile environment for the growth of bacterial and viruses. This growth is prevented when adequate sanitizer levels are continuously maintained.

Warning:

Sanitizers such as tri-chlor (tablets or sticks), calcium hypochlorite, sodium hypochlorite, Peroxide based chemicals and any chemical that dissolves on or remains undissolved in contact with the spa surface will damage your spa surface and will void the warranty completely.

BROMINE:

Bromine is the most common sanitizer used in spas. Maintaining a proper total bromine level of 3.0-5.0 PPM can control bacteria. Brominating tablets are a convenient and effective source of bromine for your spa. Do not drop bromine tablets directly into the water as this may damage the spa surface. A bromine "floater" will safely and properly dispense the tablets into the spa water. When used properly, brominating tablets will keep your water clean, clear and odor-free. To ensure maximum effectiveness add 1/2 oz. of sodium bromide per 100 gal. of water every time you fill your spa. This will establish a bromide reserve.

CHLORINE:

Chlorine can also be used as a water sanitizer, however, it is sensitive to pH. To be effective you must have a pH range of 7.2-7.6. Any reading outside this range will greatly reduce chlorine effectiveness.

Use a chlorine test kit or test strips to maintain a reading of 1.0-3.0 PPM of free chlorine. If the reading is below 1 PPM, raise the level before using the spa. If the reading is above 3 PPM, allow PPM to drop to proper range before using the spa. Read the instructions on your chlorine container carefully, or consult your local LA Spas dealer if you are having difficulty adjusting your chlorine level.

The best chlorine for your spa is a granular "Dichlor" compound. It dissolves quickly in moving water and has a nearly neutral pH. Add chlorine while jets are running and let the jets run for 1/2 hour. Generally, heavily contaminated water can be disinfected using large chlorine doses, in the range of 8-10 PPM, but a more practical method is to drain the spa and refill it with fresh water.

The effectiveness of chlorine is decreased when the cover is left off the water for two reasons: (1) sunlight decays chlorine rapidly and (2) organic debris is blown into the spa and taxes the effectiveness of the chlorine. In addition, the higher the water temperature, the faster chlorine will decay.

Note: *Two individuals in a spa may reduce the level of chlorine as much as 3 PPM in 20 minutes.*

SHOCK TREATMENTS (POTASSIUM PEROXYMONOSULFATE):

Even with regular sanitization, shock treatment may be necessary on occasion. Shock is recommended over super chlorination because it does not add additional sanitizer to the water. It is also effective in oxidizing wastes and will reduce chloramines or bromamines. Follow the manufacturers instructions listed on the label.

SUPER CHLORINATION:

Super Chlorination (or shock treatment), quickly oxidizes the spa water to burn out wastes such as perspiration, hairspray, lotions, etc. that cannot be removed by the spa filter. This waste build-up reduces the power of the sanitizer, making the water dull and irritating to the eyes and skin. It may also produce an odor. When this occurs, the "free" chlorine has become a "chloramine" which is ineffective as a sanitizer. This can be eliminated by super chlorination as needed. An application of 5 times the normal chlorine dosage will act as an adequate treatment.

STAIN & SCALE INHIBITOR (CONTROLLING STAIN & SCALE):

Staining and scaling may be common problems in spa. Because the water is hot, scale may be deposited more quickly. The circulation of water can cause the erosion of metals from spa equipment, which can stain interior surfaces. A weekly dose of a stain and scale fighter will help control these problems.

A sequestering agent, such as "MetalGon", should always be added to the spa water when filling a spa (for the first time or when draining and refilling). This will help eliminate metals in your water and increases the life of your spa equipment.

TOTAL ALKALINITY:

Total alkalinity is the amount of Carbonate, Bicarbonate and Hydroxyl ions in the water. TA (total alkalinity) affects and buffers the pH of the water. With high TA above 160, pH resists adjustment. With low TA below 130, pH is unstable and difficult to keep in the ideal range. Proper TA levels allow other chemicals to work at their opportunity.

FOAM INHIBITOR:

Soap residue from a bather's body, hair, and swimsuit combined with rapid circulation of spa water may cause foaming in your spa. Foam inhibitors will suppress foam, but cannot remove soap from the water. When foaming occurs, a shock treatment can oxidize the soap in your water and help prevent this condition. If foam remains a problem, change the water. Consult the directions on the foam inhibitor container for usage amount.

When adding chemicals to your spa water, add to the center of the spa with the pump and air blower (bubbles) operating simultaneously. Never add chemicals directly into the skimmer. Make sure the water is heated. Never add chemicals to cold water as this will affect the chemical reaction.

Store all chemicals in a cool, dry place and in such a manner to prevent contact by children or pets.

You should consult your authorized LA Spas dealer prior to any chemical use.

KEEPING YOUR WATER CLEAN & SAFE

MONDAY		FRIDAY	
TEST:	Bromine/Chlorine PH Total Alkalinity	TEST	Bromine/Chlorine PH Total Alkalinity
ADJUST:	Follow steps 1-4	ADJUST:	Follow steps 1-3
ADD	Stain and Scale control		

STEP# 1: Adjust Total Alkalinity - ideal range = 130-160. Test water, follow directions on manufacturer's label, and add required amount with jets on. Wait 30 minutes before performing additional tests.

STEP# 2: Adjust pH - ideal range = 7.4 - 7.6. Test water, follow directions on manufacturer's label, and add required amount of chemicals with jets on.

STEP# 3: Adjust Bromine/Chlorine - ideal range = 3-5 ppm (4-6 for heavy bather loads) for Bromine and 1-3 ppm for Chlorine. Fill Bromine floater or adjustable feeder and shock spa as necessary.

STEP# 4: Stain and Scale Control - Add required amount with jets on, weekly.

NOTE: The chemical chart above is a simple schedule for moderate spa use. Depending on the bather load and frequency of use, chemical balancing may be required more often.

CARE FOR YOUR SPA

Draining Your Spa:

All LA Spas are gravity drained. Do not drain water onto your lawn or plants unless all of the bromine or chlorine has dissipated from the spa water. The sanitizer in your spa water can be dissipated very quickly by leaving the spa cover off and exposing the water to direct sunlight. Drain and refill your spa about every 4 months. For heavier spa use, you may wish to change the water more frequently. With the Ultimate Water Management System, you may find that the average draining is approximately every 6 months, depending on bather load. For heavier spa use, you may wish to change the water more frequently.

- 1) Turn power off to spa.
- 2) Attach a hose to the hose bib located in the equipment area of your spa. Open the valve and allow the water to drain away from the spa.
- 3) Clean the spa surface - (see care of spa surface...this section)
- 4) Refill spa - follow initial start-up procedures to reheat spa.

FILTER CLEANING:

Always be sure the spa is off before removing and cleaning the filter cartridges. We recommend you clean the filters every 3-4 weeks or there is a decrease in jet performance. To clean the filters, simply put into the washing machine on a general cycle with ¼ cup of bleach. Do not use soap because it may cause foaming. Do not dry.

CARE FOR THE SPA SURFACE:

Your LA spa has a very high quality finish. Stains and dirt will generally not adhere to the surface. After draining the spa wipe down with a soft damp cloth (or sponge) using household soap or liquid detergent. Stubborn dirt and stains may be removed by using Spic & Span adequately dissolved in water. Be sure to rinse detergent well as this will cause suds when refilling the spa.

CAUTION:

DO NOT use any cleaning products containing abrasives or solvents since these could damage the surface and void your warranty.

You may wax the spa surface if you choose. This adds a protective coating on the finish. Use a spa wax only. Follow the instructions on label of wax product. Consult your LA Spas dealer.

CARE OF THE SPA CABINET (WOOD CABINETS)

When properly cared for, the wood cabinet of your spa will maintain beauty for many years. All wood reacts to the elements differently by expanding and contracting. Re-staining the wood every 3-4 months will help to protect it. Consult your LA Spas dealer for recommended stains to use in your area.

Please note that the cabinet is not warranted against reaction to natural weather conditions. The wood must be properly maintained.

CARE OF THE SPA CABINET (THERMOGUARD)

Your optional ThermoGuard cabinet requires little or no maintenance of any kind. To clean, simply wipe cabinet with a clean towel and mild detergent soap solution.

CAUTION:

DO NOT use any cleaning products containing abrasives or solvents since these could damage the surface of the ThermoGuard and void your warranty.

CARE FOR THE SPA COVER:

The thermal cover for your spa is an extremely durable foam insulated product. See the manufacturer's literature for proper cleaning and care instructions. When the spa is not in use, it is recommended that the cover tie downs always be utilized to discourage unsupervised children and to minimize heat loss. Small locks are available for the cover tie downs. In either case these locking methods are not considered adequate to keep unauthorized people from entering the spa.

SPECIAL COLD WEATHER INSTRUCTIONS

Winter can be one of the most enjoyable times of the year to enjoy your LA Spa. As it is difficult to get water out of the plumbing lines, WE DO NOT RECOMMEND DRAINING YOUR SPA FOR THE WINTER. However, if you decide not to use your spa during the winter, we recommend you winterize as follows:

- 1) If you drain your LA Spa turn off the main power to the spa. Drain as completely as possible. You may want to tilt the spa on edge and use a wet-vac or high pressure blower to evacuate as much water as possible. This will require additional people in order to lift and tilt the spa. Try to get as much water out of plumbing and equipment as possible.
- 2) When the spa is completely empty, leave the hose bib open and open the pump drain plug located on the bottom side of the front end of the pump. Loosen all pump unions and fittings to allow air and water to expand freely within the system. This should help prevent water freezing expansion from damaging pipes and fittings. The idea is to try to eliminate any sealed areas in the system that may contain water.

Should you have a heavy snowfall during winter months, you may want to build a protective cover cap for the spa cover. This may be done with a .5" or .75" piece of plywood and a few 2"x4" cross members.

Your spa is equipped with automatic freeze protection. However, a power outage can cause your spa equipment system to freeze quickly. During freezing conditions, check your spa frequently to ensure proper operation. Be sure to check your spa after any power failure to ensure the spa is operational.

For additional information on winterizing your spa, contact your local LA Spas dealer.

WARRANTY SERVICE INFORMATION

Your LA Spas warranty gives you specific coverage. Be sure you read your warranty carefully.

The warranty does not cover problems resulting from misuse, abuse, or neglect and it does not cover problems caused by improper installation or "perceived" problems caused by failure to read the spa owner's manual.

TROUBLESHOOTING

Heating System

Symptom	Problem	Corrective Action
Does not heat	1. Temperature setting is too low	1. Turn up the thermostat
	2. Dirty filter	2. Clean filter
	3. Air Lock	3. Prime pump See page 15
	4. Flow switch malfunction	4. Call for service
Too hot	1. Temperature setting too high	1. Turn down the thermostat
	2. High limit tripped	2. Call for service
	3. Too much filtration	3. Reduce the number of filter cycles and/or the filter cycle duration
Flashing temperature of 34 Deg F (~1.1 Deg C) or 134 Deg F (~56.6 Deg C) appears on the display	Possible temperature sensor failure	Call for service

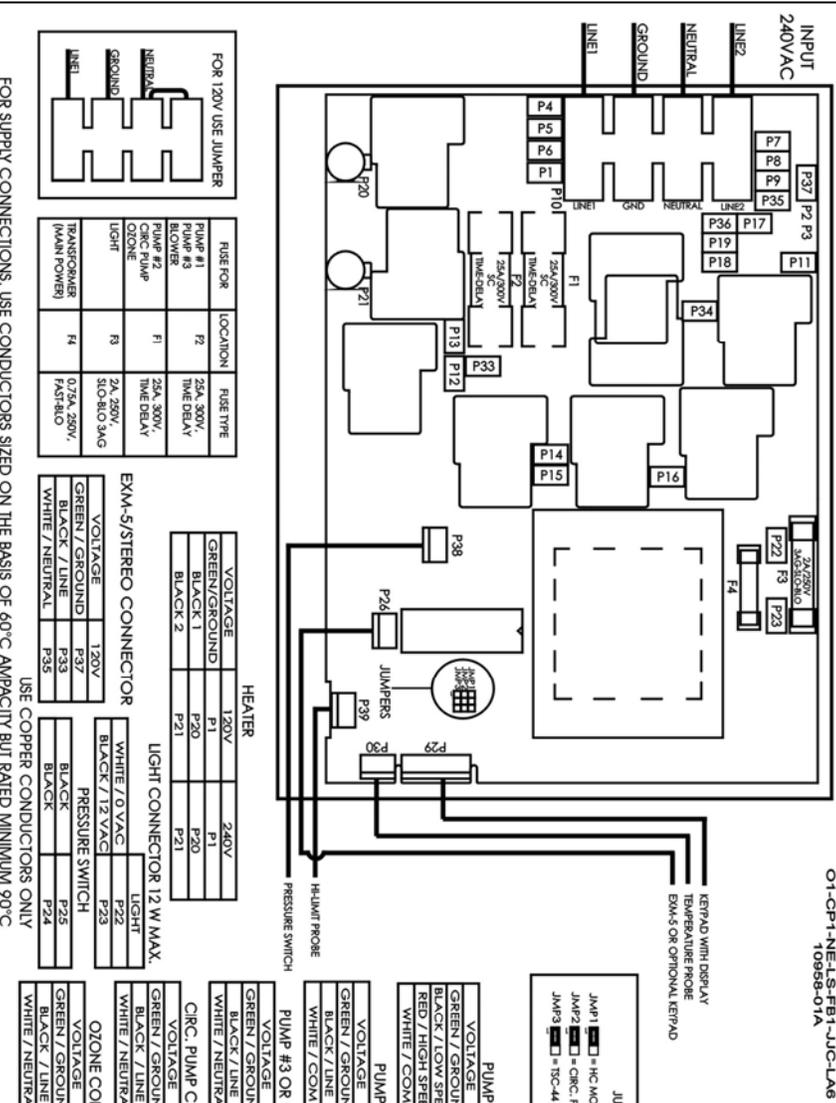
Hot Tub Temperature erratic	Water level	Fill with water to 3" (7 cm) to 4" (10 cm) above top of the filter
Display reads OVERHEAT	1. Too much filtration	1. Reduce the number of filter cycles and/or the filter cycle duration
	2. Temperature setting too high	2. Turn down the thermostat
	3.	3. Call for service

Water System

Symptom	Problem	Corrective Action
Pulsating jets	Water level too low	Fill with water to 3" (7 cm) to 4" (10 cm) above top of the filter
No Jet Action, or action is poor	1. Jets are turned off	1. Turn jets on by turning jet face counter clockwise
	2. Diverter valve turned	2. Turn the jet diverter valve clockwise or counter clockwise
	3. Dirty Filter	3. Clean Filter
	4. Air lock	4. Prime pump see page 15
	5. Gate valve closed	5. Open gate valve

Electrical System

Symptom	Problem	Corrective Action
Will not turn on in any mode	No power	Check circuit breaker and/or GFCI
Turns on by itself	Normal automatic daily power filtration, or anti-freeze cycle	No action required
Light is out	Burned out bulb	Replace bulb
Pump shuts down unexpectedly while in use	1. Automatic timer has shut pump off	1. Push JETS Button again to start another cycle
	2. Motor over-heated and automatic protective device has shut down pump(s)	If pump(s) will not restart when JETS Button is pushed, call for service
3 flashing L.E.D.s appear on the Top Side Control	1. Water flow problem	1. Check water level 2. Clean filter
	2. Sensor problem	Call for service
3 flashing L.E.D.s appear on the Top Side Control and low speed pump turn on	High Limit Condition	1. Turn off power, wait 5 seconds turn on power. This is a system reset
		2. If problem persists, call for service:



MODEL NUMBER:
 SC-MP-F-122-P212-P312-B1-
 01-CP1-1-NE-LS-FB1-JJC-LA6
 10955-01A

SPARBUILDERS
 TECHNICAL SUPPORT
 1-800-772-7257

JUMPER SETTINGS

JMP1 = HC MODE = LC MODE
 JMP2 = CIRC. PUMP = NO CIRC. PUMP
 JMP3 = TSC-14 = TSC-19

PUMP #1 CONNECTOR

VOLTAGE	120V	240V
GREEN / GROUND	P4	P4
BLACK / LOW SPEED	P14	P14
RED / HIGH SPEED	P12	P12
WHITE / COM	P7	P18

PUMP #2 CONNECTOR

VOLTAGE	120V	240V
GREEN / GROUND	P6	P6
BLACK / LINE	P11	P11
WHITE / COM	P9	P17

PUMP #3 OR BLOWER CONNECTOR

VOLTAGE	120V	240V
GREEN / GROUND	P1	P1
BLACK / LINE	P16	P16
WHITE / NEUTRAL	P35	P36

CIRC. PUMP CONNECTOR

VOLTAGE	120V
GREEN / GROUND	P37
BLACK / LINE	P34
WHITE / NEUTRAL	P8

OZONE CONNECTOR

VOLTAGE	120V
GREEN / GROUND	P5
BLACK / LINE	P34
WHITE / NEUTRAL	P8

HEATER

VOLTAGE	120V	240V
GREEN / GROUND	P1	P20
BLACK 1	P20	P20
BLACK 2	P21	P21

LIGHT CONNECTOR 12 W MAX.

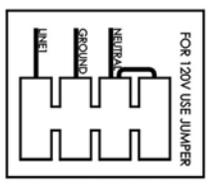
VOLTAGE	120V	240V
GREEN / GROUND	P37	P23
BLACK / LINE	P33	P22
WHITE / NEUTRAL	P35	P23

EXM-5/STEREO CONNECTOR

VOLTAGE	120V
GREEN / GROUND	P37
BLACK / LINE	P33
WHITE / NEUTRAL	P35

RUSE FOR

RUSE FOR	LOCATION	RUSE TYPE
PUMP #1	F2	25A, 30V, TIME DELAY
PUMP #3	F1	25A, 30V, TIME DELAY
CIRC PUMP	F3	2A, 250V, 30.0 BLD SAG
OZONE	F4	0.25A, 250V, FAST BLO



FOR SUPPLY CONNECTIONS, USE CONDUCTORS SIZED ON THE BASIS OF 60°C AMPACITY BUT RATED MINIMUM 90°C
 USE COPPER CONDUCTORS ONLY