



 **MARQUIS**
The *ULTIMATE* Hot Tub Experience!

**Vector21 Swim Spas
2023 Owner's Manual**

WELCOME TO THE ULTIMATE SWIM SPA EXPERIENCE!

We sincerely hope your spa life is a pleasant experience. If problems should arise, contact your authorized Marquis® dealer. Or contact Marquis at any of the following:

Email: serviceone@marquiscorp.com
Web: www.MarquisSpas.com
Marquis Hot Tubs, LLC.
472 N Lamb Ave
Las Vegas, NV 89115

This manual is provided to enhance your enjoyment of your spa and to prevent non-warranty situations. It is your sole responsibility to read, understand and comply with the instructions in the owner's manual. Please save your original sales receipt for reference in case of a future warranty claim. Failure to use, maintain or install the spa in compliance with this owner's manual could result in loss of warranty coverage.

SERIAL NUMBER LOCATION

You will find the serial number on the tag in the equipment area.

PLEASE FILL OUT AND KEEP FOR FUTURE REFERENCE

Name of Purchaser _____

Date of Purchase _____

Address _____

City _____ State _____ Zip Code _____

Telephone _____

Spa Model/Color _____

Spa Serial # _____

Pack Serial # _____

Dealer's Name _____

Dealer's Address _____

City _____ State _____ Zip Code _____

Telephone _____

Every effort has been made to ensure the accuracy of this manual. However, Marquis® reserves the right to improve its product without notice. This could create a minor variation between this manual and the actual product you receive. We apologize for any inconvenience this may cause.

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The following instructions contain important safety information. We strongly encourage you to read and apply them.

IMPORTANT SAFETY INSTRUCTIONS

WHEN INSTALLING AND USING THIS ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED, INCLUDING THE FOLLOWING:

1. **READ AND FOLLOW ALL INSTRUCTIONS**
2. **WARNING:** To reduce the risk of injury, do not permit children to use this product unless closely supervised at all times.
3. **DANGER: RISK OF CHILD DROWNING.** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use the spa or swim spa unless they are supervised at all times.

240 VOLT, PERMANENTLY INSTALLED MODELS

4. A ground terminal is provided on the control box. To reduce the risk of electric shock, connect this terminal to the grounding terminal of your electrical service or supply panel with a continuous green, insulated copper wire. The wire must be equivalent in size to the circuit conductors supplying the equipment. In addition, a bonding terminal (pressure wire connector) is provided on the outside of the control box for bonding to local ground points. To reduce the risk of electric shock, this connector should be bonded with a No. 8 AWG (8.42mm²) (No. 6 AWG in Canada) solid copper wire to any metal ladders, water pipes, or other metal within five feet (1.52m) of the spa to comply with local requirements.
5. Your spa uses ground fault circuit interrupters in the electrical sub-panel. Before each use of the spa and with the unit operating press the Test button on each breaker. The switch should click over to the "Trip" position. Wait thirty seconds and reset each GFCI breaker by switching it completely off and then completely on. The switch should then stay on. If either of the interrupters does not perform in this manner, it is an indication of an electrical malfunction and the possibility of an electric shock. Disconnect the power until the fault has been identified and corrected.
6. Install the spa so proper drainage is provided.
7. **DANGER: RISK OF ELECTRIC SHOCK.** Install the spa at least five feet (1.52m) away from metal surfaces, in accordance with the National Electric Code ANS/NMFP70-1993. Each metal surface must be permanently connected to a minimum No. 8 (8.42mm²) (No. 6 AWG in Canada) solid copper conductor attached to the wire bonding connector on the terminal box provided for this purpose.
8. **DANGER: RISK OF ELECTRIC SHOCK.** Do not permit any appliance, such as a light, telephone, radio, or television, etc. within five feet (1.52m) of the spa or swim spa.
9. **WARNING:** To reduce the risk of injury:
 - Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult. Lower water temperatures are recommended for extended use (exceeding 10 minutes) and for young children.
 - Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa water temperatures to 100°F (38°C).
 - Before entering a spa, the user should measure the water temperature with an accurate, waterproof, fever thermometer since the tolerance of temperature-regulating devices may vary as much as +/- 5°F (3°C).
 - The use of drugs, alcohol, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
 - Persons suffering from obesity or with a medical history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using the spa.

- Persons using medications should consult a physician before using a spa since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.
10. **DANGER: TO REDUCE THE RISK OF INJURY TO PERSONS.** Do not remove the suction fittings.
 11. **DANGER: RISK OF INJURY:** Never operate a spa if the suction guard(s) is broken or missing. Never replace a suction guard with one rated less than the flow rate marked on the original suction guard. The suction guard(s) in the spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction guard(s) or the pump, be sure that the flow rates are compatible.
 12. **DANGER:** Children are especially sensitive to hot water. At no time should children have unsupervised access to the spa. Children must not be allowed to climb onto the spa cover. All Marquis spas are equipped with a locking cover that meets the ASTM F1346-91 Standard for Safety Covers. Always lock the child resistant locks after using the spa for your children's safety.

13. **SAVE THESE INSTRUCTIONS.**

WARNING: Do not permit electric appliances (such as a light, telephone, radio, or television) within five feet (1.52m) of the spa or swim spa.

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

WARNING: Do not use spas or swim spas unless all suction guard(s) are installed to prevent body and hair entrapment.

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

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

WARNING: The use of alcohol, drugs, and medication can greatly increase the risk of fatal hyperthermia.

WARNING: Before entering the spa or swim spa measure the water temperature with an accurate thermometer.

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

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

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

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

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

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

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

PERSONAL SAFETY

Prolonged immersion in hot water can result in **HYPERTHERMIA**, a dangerous condition which occurs when the internal temperature of the body reaches a level above normal (98.6°F, 37°C). The symptoms of hyperthermia include dizziness, fainting, drowsiness, lethargy, and a body temperature above 98.6°F (37°C). The physical effects of hyperthermia include unawareness of impending hazard, failure to perceive heat, failure to recognize the need to exit the spa, physical inability to exit the spa, fetal damage in pregnant women, and unconsciousness resulting in a danger of drowning.

Other booklets about spa safety are: “Children Aren’t Waterproof,” “Pool and Spa Emergency Procedures For Infants and Children,” “Layers of Protection” and “The Sensible Way to Enjoy Your Spa” published by Association of Pool & Spa Professionals.

WARNING: The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia in swim spas and spas.

Persons taking medications which induce drowsiness such as tranquilizers, antihistamines, or anticoagulants should not use the spa. Pregnant women and persons with a medical history of heart disease, diabetes, or high blood pressure should consult a physician before using the spa.

PERSONAL SAFETY DOs:

- Be sure your spa is connected to the power supply correctly – only use a licensed electrical contractor.
- Shut off power supply before draining the spa or servicing the electrical components.
- Test the Ground Fault Circuit Interrupter (GFCI) monthly.
- Always test the water temperature with an accurate thermometer before entering the spa to be sure that it’s a safe temperature.
- Do not use the spa if water temperature is outside of set temperature.
- Remember that wet surfaces can be very slippery. Take care when entering and exiting the spa.
- Lock the DuraCover™ when the spa is not in use, whether it is empty or full of water.
- Keep the water clean and sanitized with correct chemical care.
- Turn on the jets when adding ANY chemicals to the spa water.
- Clean the filter cartridge(s) monthly to remove debris and mineral buildup which affects the performance of the hydrotherapy jets, limits the flow, or may affect the sensor reading which will turn off the entire spa.

PERSONAL SAFETY DO NOTs:

- Don’t use the spa with the equipment compartment door removed.
- Don’t use the spa for more than 10 minutes of time at water temperatures in excess of 104°F (39°C).
- Don’t allow the jet pump(s) to operate for an extended period of time with the cover in place. Extended pump operation causes a slow heat buildup due to water friction. The spa equipment controls are equipped with a built-in safety timer that automatically shuts off the jet pump(s) after 15 minutes of continuous operation should it have been left on inadvertently.
- Don’t operate the spa at any time with the filter cartridges removed.
- Don’t lift or drag the cover by using the tie-down straps; always lift and carry by using the external handles.
- Don’t store chemicals in the spa’s equipment compartment.
- Don’t hesitate to call your authorized dealer with any questions or maintenance concerns.

LOCATION

For your vessel to function properly and safely, it must be located on a hard, flat, stable, and level surface on a 6" to 8" (152mm to 203mm) thick concrete pad that can support 200lbs. per square inch. Inground vessels require special installation techniques and should be planned in conjunction with your authorized dealer. Improper installation can result in structural damage to the vessel and the voiding of your vessel warranty. Items to discuss with your dealer include: Local construction codes, electrical service requirements, serviceability of equipment present underground obstructions such as gas, water, and telephone lines, safety measures such as fences and locks, and visibility of the vessel installation from the home, street, and neighbors.

Do not shim your vessel. If your pad is not level you must pour a top cap: contact a professional.

- Allow for sufficient water drainage around the vessel to help preserve the equipment and support structure. This includes indoor installations.
- A filled vessel can weigh up to 25,000 LB (11 340 KG) and the location should support the weight of the filled vessel.
- The vessel contains equipment on both ends. Your vessel **MUST** be installed to permit access for servicing the equipment above and/or below any decks or floors. Access is essential and must allow adequate room for service. To facilitate repairs, Manufacturer or its agent may require access to vessel equipment. It is your responsibility to provide unencumbered access. See vessel diagrams for location of power supply.
- Leave access to the circuit breakers in the sub panel.
- Be sure the vessel is level and in the final position **BEFORE** filling with water. Check for power cords, tools, and hoses that may be caught underneath the vessel. Do not apply power to the vessel before it is completely filled with water. Damage to the pumps, heater and sensors may result.
- **IMPORTANT: DO NOT LET AN EMPTY VESSEL REMAIN EXPOSED TO DIRECT SUNLIGHT.**

Vessel surface temperatures can reach in excess of 180°F (82°C) if left exposed to the sun. Significant damage can occur if this is allowed to happen, including warping and blistering of the surface. Damage, that occurs as a result of this exposure, is not covered under the warranty.

- **CAUTION:** Never try to move a vessel that has not been fully drained. To do so could result in damage to the spa and physical injury to the mover. Cracks in the vessel surface, exterior siding or base due to improper transport or support of the vessel are not covered under the warranty.

OUTDOOR INSTALLATION

To install the vessel outdoors, a flat level concrete reinforced pad at a minimum thickness of 6" - 8" or 152mm - 203mm is required.

Placement of the vessel on pavers, gravel, or dirt is not approved and will void the warranty. The reinforcing material should be attached to a #8 AWG bonding wire per national and local electrical code (#6 AWG in Canada).

INDOOR INSTALLATION

There are special requirements if you place your vessel indoors. A flat level concrete reinforced pad at a minimum thickness of 6" - 8" or 152mm - 203mm is required. Flooring material must provide adequate traction when wet. Proper drainage is essential to prevent water puddling. Proper ventilation to the area is required. The addition of a ventilation system is recommended. Please see your contractor for details.



Shut-off valve in open position

SHUT-OFF VALVES

Your spa is equipped with shut-off valves (see EQUIPMENT DIAGRAM) that shut off the water flow to the equipment system for authorized Marquis® Dealer service. At times, a new spa or one that has recently been serviced, may have the shut-off valves partially closed which can restrict the water flow and hinder jet performance. Be sure the valves are fully open.

FREEZE PROTECTION

When a freeze condition is detected (which occurs when the temperature in the heater housing drops to 55°F, (13°C) the jet pump(s) is automatically activated. In areas with extremely cold winter conditions, your spa should be fine as long as it is left running at normal operating temperatures. For extra protection see your dealer for an optional freeze sensor. If you plan to turn the spa off, follow the instructions in this manual (see SUSPENDED USE OR WINTERIZING YOUR SPA).

OVERHEATING

In the case of extended hot weather, the spa water temperature may reach and maintain 104°F to 106°F (40°C to 41°C) or higher. This is due to the ambient temperature and the full insulation in the spa cabinet. You have the option of changing when or how long the pumps will run. See SPA CONTROL OPERATION for available options.

FILTER CARTRIDGES

Your portable spa is equipped with the Constant-Clean™ Filtration system. It features two Vortex filters.

NOTE: It is very important that the components of these filtration systems be installed properly in the proper part of the spa.

1. Hold the Vortex filter cartridge and center it in the opening of the filter housing.
2. Use the filter handle and turn the filter cartridge clockwise to screw it in place. (Use caution not to overtighten as damage may occur to threads and is not covered under warranty.)
3. Replace the filter cover.

SUCTION GUARDS

The suction guard(s) in the footwell of your spa is an opening through which the jet pump(s) draws water. The suction fittings have an integrated vacuum release built into them. In the event that a suction fitting gets blocked, air will be induced causing the pump to cavitate and the water flow interrupted. Once the blockage is removed, normal operation will resume. Suction fittings are equipped with a safety guard. Suction through the fittings can be strong. The safety guard(s) must remain in place and undamaged. A fitting with a damaged guard(s) can be dangerous, especially to small children or people with long hair. Should any part of the body become drawn to a fitting, turn the jet pump(s) off immediately. Long hair should be restrained. Never allow long hair to float freely in the spa. Replace any missing or damaged suction guard(s).



Safety guard of suction fitting must remain in place.

NOTE: It is normal for the flow rates of the suction fittings to vary from strong to barely noticeable.

ELECTRICAL REQUIREMENTS

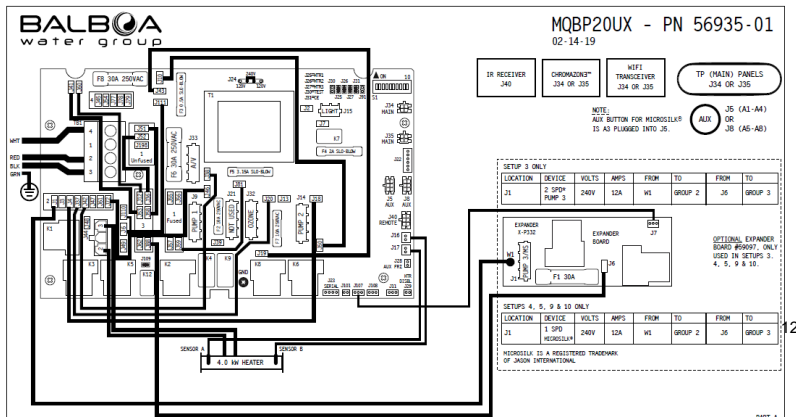
It is the responsibility of the spa owner to ensure that all electrical connections are made by a qualified electrician in accordance with all national, state, and local electrical codes in effect at the time of installation. Fuses are covered to be free of defect at time of installation only.

240 Volt

All connections must be made in accordance with the wiring diagram found on the inside of the control box cover. Connections must be made with copper conductors only – *do NOT use aluminum wire*. All conductors, circuit breakers, and fuses and the GFCI must be sized in accordance to the total amperage load as specified below.

Improperly wired spas can cause irreversible damage resulting in blown fuse and melted terminal block, and to other electrical components. Also, damage caused to components or equipment caused by high or low voltage, brown outs or electric surges are not covered under warranty.

Wiring Diagram



- Permanently connected (Hard wired).
- Rated 240V, 60Hz, 50A, three wires (#6 copper) plus ground (#8 copper (8.42mm²)), [4 wires total].
- Circuit breaker or fuse size: 50A.
- A disconnecting means must be installed within sight from the equipment and at least 5 feet (1.52m) from the inside walls of the spa.
- Connect only to a circuit protected by a Class A ground Fault Circuit Interrupter (GFCI).

STARTUP PROCEDURE

Your spa is equipped with solid-state Comfort Controls specific to your spa model. (See **SPA CONTROL OPERATION** for your specific spa model.)

NOTE: Your spa has been filled and test-run at the factory. The first time your spa is filled with water, some discoloration from residual test water may appear. This will disappear when the spa is completely filled and the filtration system is functioning.



Vent air by slightly opening pump unions.

THERAPY PUMP(S)

Startup procedure for all models

1. Place spa on a hard, flat, level surface. Make sure the power supply is off.
2. Make sure the suction guard(s) in the footwell are in place and undamaged.
3. Open the equipment door. Tighten all disconnects and open all shut-off valves.

NOTE: Keep the drain valve closed at all times except when draining the spa (do not rely on the cap to stop the flow of water). Not doing so could result in damage to the drain valve due to freezing water.

4. Install filter cartridges. (See **INSTALLATION INSTRUCTIONS**, Filter Cartridges.)
5. Fill the spa with water to two-thirds of the way up the Vortex skimmer openings. The use of a *Fill Filter* is recommended, especially in areas with high mineral content in the water.

6. Turn the power on.

WARNING: Spa must be completely filled with water before turning on power.

7. Your spa is now in “pump priming” mode and a “RUN PMPS PURG AIR” message displays in the LCD window of the control panel. While in this mode the spa appears idle, which lasts approximately four to five minutes if not exited manually. To exit manually, press the TEMP+/- pad.
8. Allow the spa to circulate on high-speed (see SPA CONTROL OPERATION) for four to five minutes to discharge air from the plumbing system. Do not expect hot water immediately from the jets; the heater will take several hours to heat the water.
9. At this time the spa should have water flowing from the jets. If the pump has not primed and the water is not flowing from the jets after two minutes TURN OFF POWER TO THE SPA and vent air from the pumps by slightly opening the pump unions located behind the equipment door. After turning the power on again, the spa initiates a new priming mode. Repeat steps above.
10. The system requires approximately two minutes of water flow to determine the water temperature. After two minutes of water flow, the temperature is displayed as actual water temperature. After you have manually exited the priming mode (or allowed the spa to automatically exit) the LCD window momentarily displays 100°F (38°C) and then the display switches to - - °F.
11. The factory default setting for water temperature is 100°F (38°C). Use the TEMP pad on the control panel to set the water temperature to the desired level. (See SPA CONTROL OPERATION.) It takes up to 24 hours to heat the water to desired temperature depending on the water temperature and voltage of your spa.

Test the water for the proper chemical balance and adjust as necessary. SpaCare products are recommended. (See **WATER TREATMENT**.) **PROPER CHEMICAL BALANCE IS IMPORTANT** for your safety and the longevity of your spa.

DURACOVER®

When the spa is not in use, the DuraCover® should be kept on the spa to retain the water's heat and to keep out dirt, leaves, etc.

For your safety and convenience, the cover is equipped with double-stitched straps, safety locks, and handles. Use the exterior handles to remove and replace your cover. Never attempt to open or remove the cover by grasping or pulling on the cover skirting or cover lock straps as the skirting may tear.

Marquis® suggests you use the safety locks to help keep out unintended users, prevent covers from being blown off in windy conditions and to maximize heat retention/energy efficiency. The cover and retractable cover system are not recommended for use in wind conditions reaching above 25 miles per hour. If your spa is located in an area susceptible to high winds, additional heavy-duty wind straps may be necessary to minimize cover damage.

NOTE: Marquis®' exclusive DuraCover® is designed for optimum protection of the spa shell. Using an aftermarket cover will not provide the same protection and will void the shell warranty.

Open the spa cover:

1. Unfasten all cover lock straps.
2. Place one hand under the cover skirting, between the spa and cover, to break the cover's vacuum seal. Do not use cover handles to break vacuum seal.
3. Fold the front half of the cover over onto the back half.

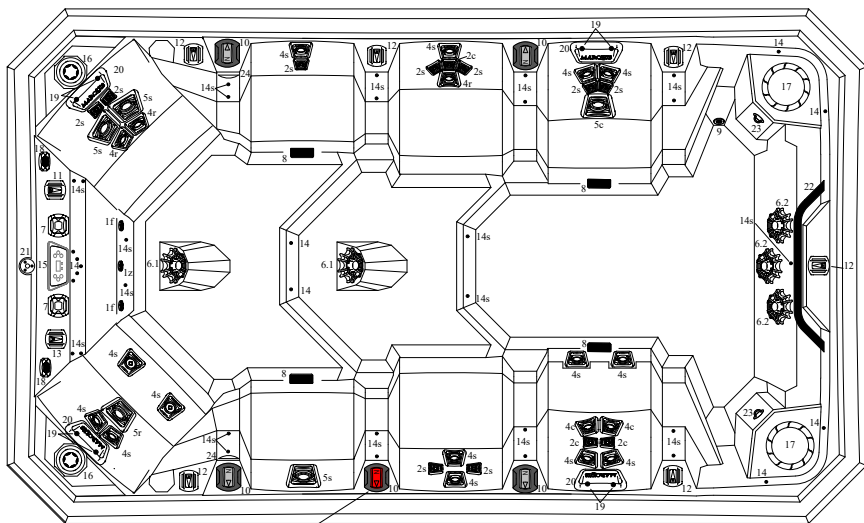
NOTE: Unlock and release all cover locks before attempting to open cover. Damage caused by attempting to open the cover while locked or during windy conditions are not covered under warranty. Do not walk, stand, climb, or sit on the vinyl cover or retractable cover system. Do not use hard, sharp, or metal objects, such as a windshield scraper, to remove ice. Such objects can cut, mar, or puncture the cover's vinyl surface.

Close the spa cover:

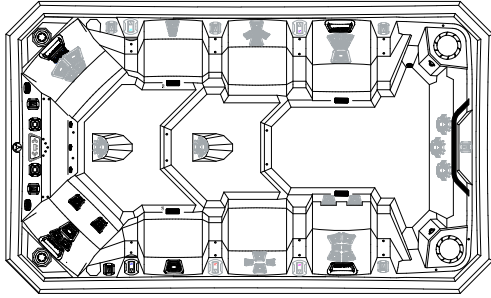
1. Slide folded cover onto one half of spa.
2. Unfold the cover by lifting the handle located on the top (front) half of the cover. Allow the unfolded half to fall gently down onto the spa.
3. Secure the cover lock straps to the spa and lock them.

NOTE: When opening a cover with a cover removal mechanism, use one of the manufacturer's recommended methods. Do not attempt to open the cover in any other way. Damage caused by improper opening or closing of the cover is not covered under the warranty.

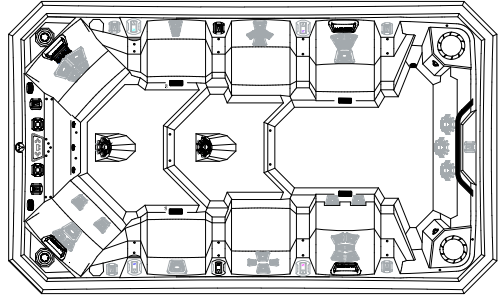
Fading, staining, torn stitching of the spa cover and broken foam cores are not covered under the warranty for any reason. Spa covers do not qualify for labor coverage under the warranty. These parts can be purchased or exchanged under warranty at your authorized Marquis® Dealer.



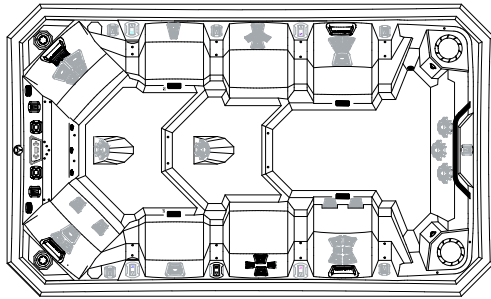
#	Component Identification	Qty.
1z	Ozone fittings	1
1f	Spa Frog wall fitting (optional)	2
2s	Directional Jetpod	9
2c	Conal Jetpod	3
4s	Directional Jetpod	14
4c	Conal Jetpod	2
4r	Orbital Jetpod	3
5s	Directional Jetpod	3
5c	Conal Jetpod	1
5r	Orbital Jetpod	1
6	Whitewater-4 jet	5
7	Pop up water feature	2
8	Suction fitting	4
9	Floor drain	1
10	V ³ control valve	5
11	Neck Jet valve	1
12	Air control valve	6
13	Waterfall valve	1
14	LED lights	11
14s	Starlights™ LED (option)	25
15	Control panel	1
16	In-line canister (option)	2
17	Vortex filters	2
18	Surface mount speakers (option)	2
19	Headrest buttons	8
20	Headrests	4
21	Swim tether plate	1
22	Grab rail	1
23	Exercise attachment hook	2
24	Rowing attachment	2
Physical Specifications		Size
Dimensions		150" x 90"
Height		51"
Seating capacity/positions		8/8
Weight dry lbs. / full lbs.		1,800/9,723
Water capacity/gallons		950
Total therapy Jetpods		36



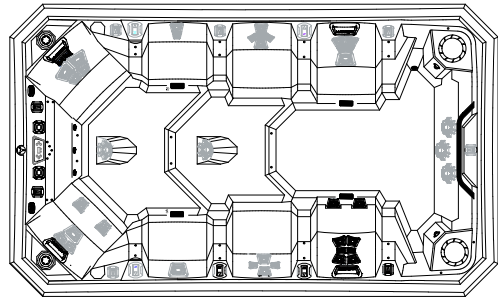
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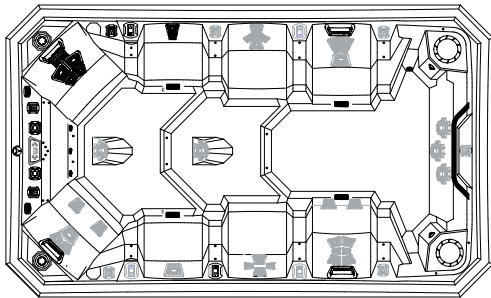
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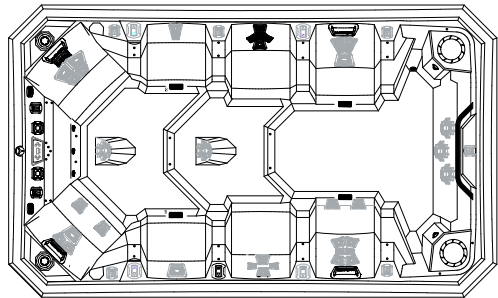
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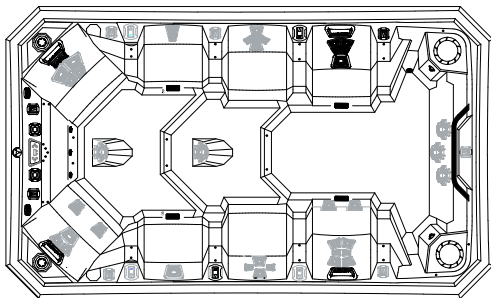
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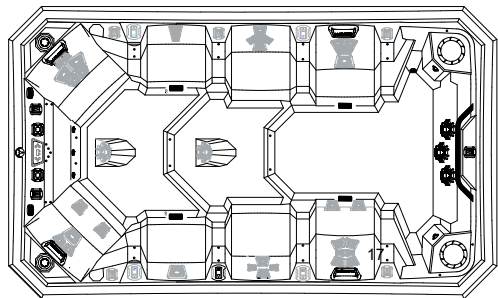
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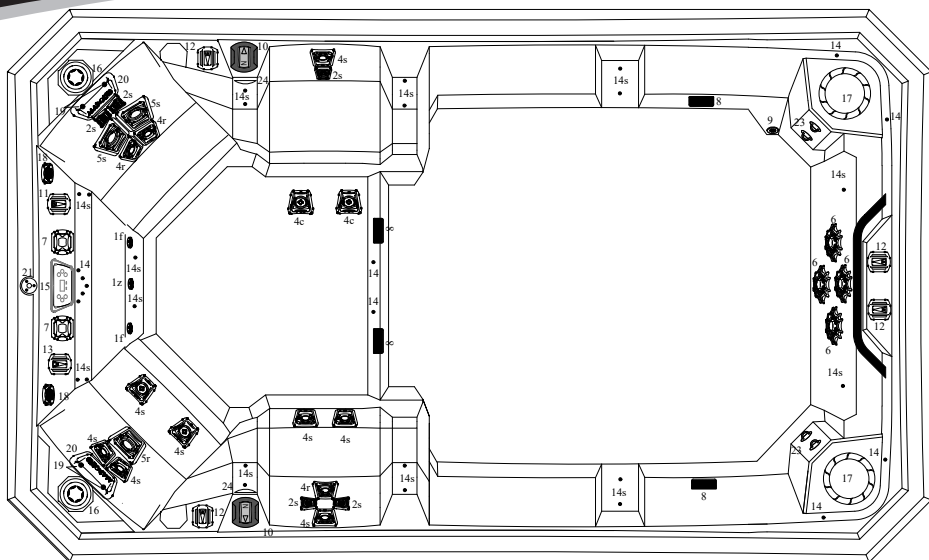
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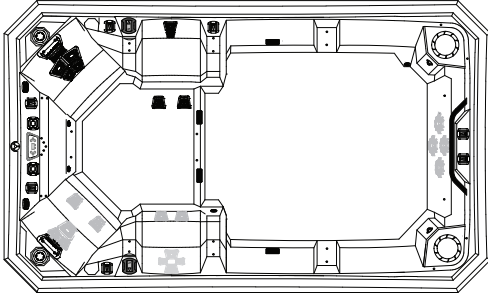
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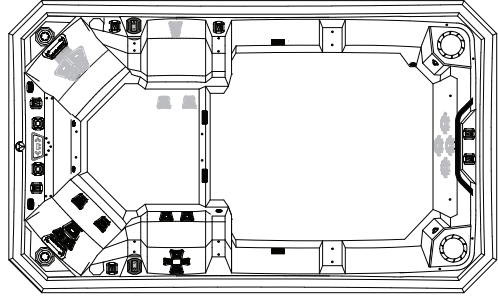
ZONE 2



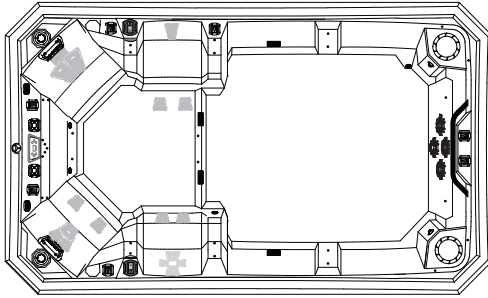
#	Component Identification	Qty.
1z	Ozone fittings	1
1f	Spa Frog wall fitting (optional)	2
2s	Directional Jetpod	5
4s	Directional Jetpod	8
4c	Conal Jetpod	2
4r	Orbital Jetpod	3
5s	Directional Jetpod	2
5r	Orbital Jetpod	1
6	Whitewater-4 jet	4
7	Pop up water feature	2
8	Suction fitting	4
9	Floor drain	1
10	V ³ control valve	2
11	Neck Jet valve	1
12	Air control valve	4
13	Waterfall valve	1
14	LED lights	11
14s	Starlights™ LED (option)	20
15	Control panel	1
16	In-line canister (option)	2
17	Vortex filters	2
18	Surface mount speakers (option)	2
19	Headrest buttons	4
20	Headrests	2
21	Swim tether plate	1
22	Grab rail	1
23	Exercise attachment hook	4
24	Rowing attachment	2
Physical Specifications		Size
Dimensions		150" x 90"
Height		51"
Massage Seats		4
Weight dry lbs. / full lbs.		1,700/11,720
Water capacity/gallons		1,200
Total therapy Jetpods		25



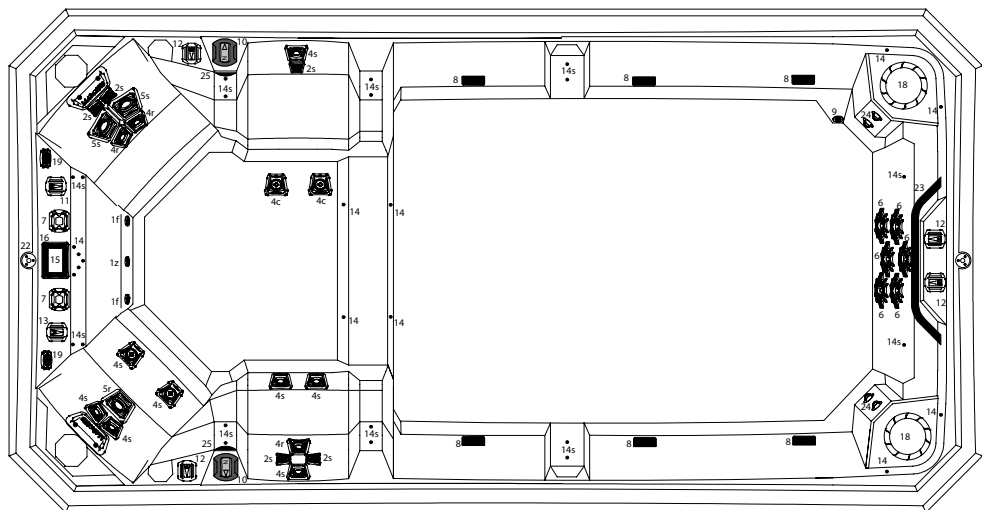
ZONE 1A



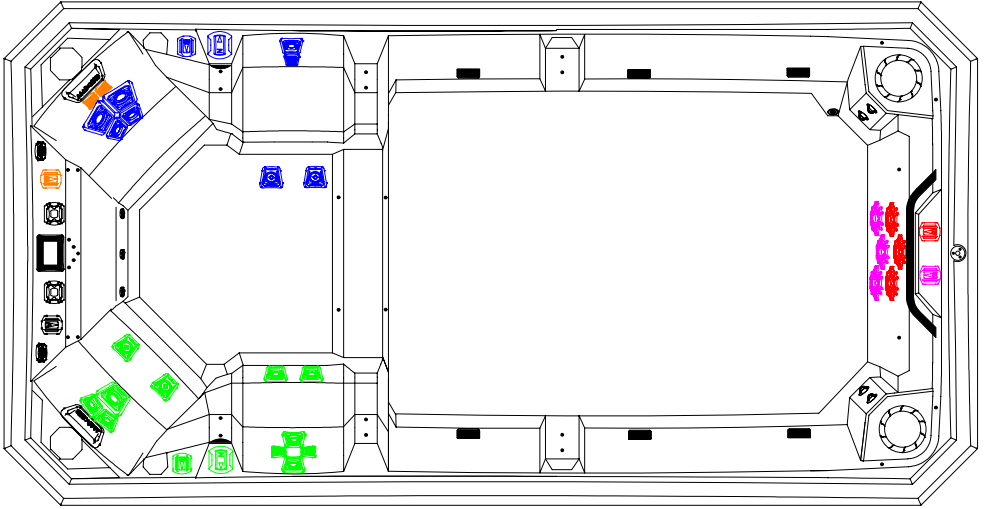
ZONE 1B






ZONE 2

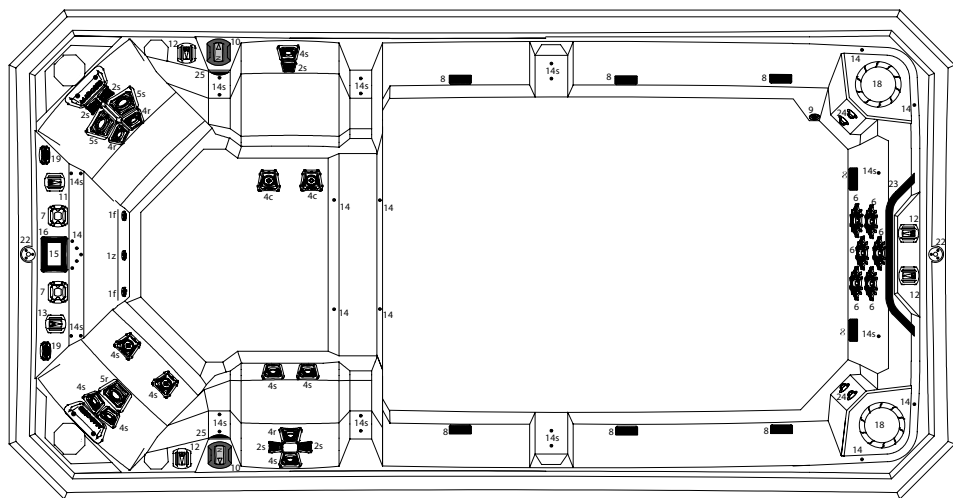


#	Component Identification	Qty.
1z	Ozone fittings	1
1f	Spa Frog wall fitting (optional)	2
2s	Directional Jetpod	5
4s	Directional Jetpod	8
4c	Conal Jetpod	2
4r	Orbital Jetpod	3
5s	Directional Jetpod	2
5r	Orbital Jetpod	1
6	Whitewater-4 jet	6
7	Pop up water feature	2
8	Suction fitting	6
9	Floor drain	1
10	V ³ control valve	2
11	Neck Jet valve	1
12	Air control valve	4
13	Waterfall valve	1
14	LED lights	13
14s	Starlights™ LED (option)	18
15	Control panel	1
18	Vortex filters	2
19	Surface mount speakers (option)	2
20	Headrest buttons	4
21	Headrests	2
22	Swim tether plate	2
23	Grab rail	1
24	Exercise attachment hook	4
25	Rowing attachment	2
Physical Specifications		Size
Dimensions		174" x 90"
Height		56"
Massage Seats		4
Weight dry lbs. / full lbs.		2,325/15,669
Water capacity/gallons		1,600
Total therapy Jetpods		27

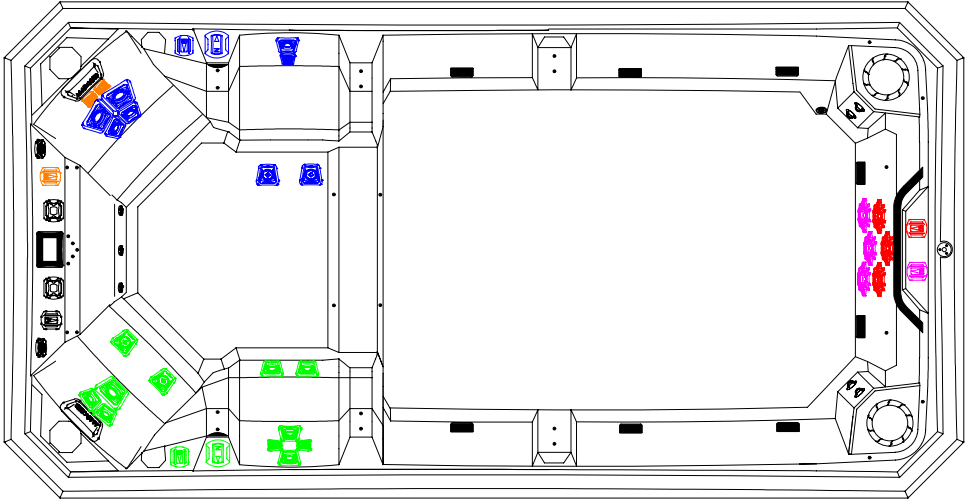





-  Pump 1 - A
-  Pump 1 - B
-  Pump 1 - Neck Jets

-  Pump 2
-  Pump 3



#	Component Identification	Qty.
1z	Ozone fittings	1
1f	Spa Frog wall fitting (optional)	2
2s	Directional Jetpod	5
4s	Directional Jetpod	8
4c	Conal Jetpod	2
4r	Orbital Jetpod	3
5s	Directional Jetpod	2
5r	Orbital Jetpod	1
6	Whitewater-4 jet	6
7	Pop up water feature	2
8	Suction fitting	8
9	Floor drain	1
10	V ³ control valve	2
11	Neck Jet valve	1
12	Air control valve	4
13	Waterfall valve	1
14	LED lights	13
14s	Starlights™ LED (option)	18
15	Control panel	1
18	Vortex filters	2
19	Surface mount speakers (option)	2
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Total therapy Jetpods		27



-  Pump 1 - A
-  Pump 1 - B
-  Pump 1 - Neck Jets

-  Pump 2
-  Pump 3

START-UP

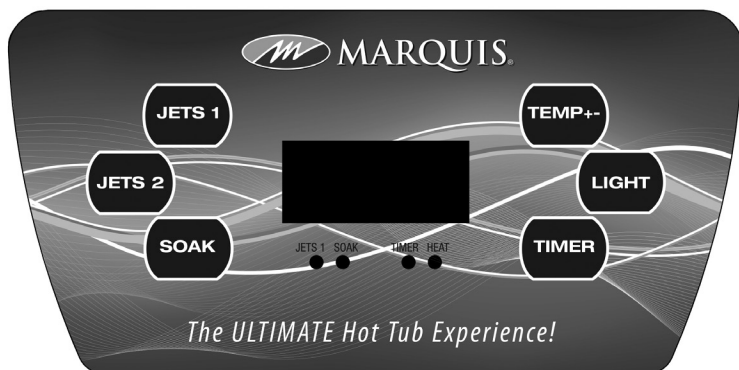
FILLING THE SWIM SPA

The water level should be filled to two-thirds up the skimmer fins. Fill only with clean water. If your water source contains particles, please contact your dealer for a fill filter.

POWERING UP THE SWIM SPA

1. After the spa has been filled with water, power to the swim spa can be turned on. When power to the swim spa is turned on, the display on the control panel will read "RUN PMPS PURG AIR - - - - -". This is an opportunity to run the pumps and purge any air from the system and associated plumbing lines. This period will last 4-5 minutes or can be exited by pressing the Temp +/- button or pump buttons.
2. The swim spa controls are preprogrammed from the factory. Based on bather load and usage, a need may arise to increase the filtration time. See (Filtration Cycles)

OPERATING THE ELECTRONIC CONTROLS (V150P & V150W)



Jets 1

If the JETS 1 pump is off, press JETS 1 button to turn on pump 1 to low speed. Pressing a second time will turn the pump on to high speed. Pressing a third time will turn the pump off. The high speed of pump 1 will run for 15 minutes and then switch to low speed. Once on low speed the pump will run for 15 minutes and then shut off. To restart the pump, press the JETS 1 button." The orange LED indicator under the LCD display will illuminate anytime the pump is running.

NOTE: If the system is in a filter or heating cycle, low speed will continue to run.

Jets 2

Press the JETS 2 button to turn on pump two to low speed. Pressing a second time will turn the pump on to high speed. Pressing a third time will turn the pump off. The high speed of pump 2 will run for 15 minutes and then turn off. To restart the pump, press the JETS 2 button.

Adjusting temperature (factory default 100° F)

To adjust the temperature of the water, press the TEMP +/- button. The first press of the button will display the set temperature and begin to flash. Continue to press or hold the TEMP +/- to reach the desired set temperature. Once the display stops blinking the new temperature setting will be set. The factory default setting is 100° F (38° C). The minimum temperature that can be set is 60° F (16° C) and the maximum temperature that can be set is 104° F (40° C). The display always shows actual water temperature.

Soak

Pressing the SOAK button will turn off all pump operation. This is a useful feature when all you desire is a simple soak with no jet action. The Soak feature will last 60 minutes and then resume normal operation. Pressing any JETS button will override the soak feature and turn on the pumps or you can simply press the SOAK button to exit the mode. Turning the LED lights on and off will not affect the quite soak mode. The orange LED indicator light under the LCD display will illuminate anytime this feature is engaged.

Note: If the system is heating it will take a few moments for the Soak feature to engage.

Timer

Press the TIMER button to start the timer. The display will start at E00 and begin timing how long you have been in the spa or using a certain feature. "E" is for elapsed and the two trailing characters track time in one minute intervals. The display will alternate with the current water temperature every 10 seconds. The timer will continue to run up to 60 minutes. To turn off, press the TIMER button one time. The orange LED indicator below the LCD display will illuminate anytime this feature is running.

Light

Press the LIGHT button to turn the interior spa lights on and off. If left on the lights will run for 60 minutes and then turn off automatically. If your spa is equipped with an LED light system, pressing the light button repeatedly (within 2-3 seconds of each press) will change the various colors of the LED lights.

Waterfall

Waterfall works on Pump 1. Press JETS 1 button and turn the Waterfall (W) valve.

Note: The LCD display on the control panel may periodically show signs of condensation and/or fogging in the display. This condition can happen when the colder ambient temperature reaches the panel when you open the cover. The condition does not cause reliability or operational concerns with the panel or spa and therefore is not covered under warranty.

USER PROGRAMMING

The following features allow for additional control and setting of the on-board electronics. In most cases the factory default settings are adequate

for normal use and operation. To access any of the following features press TEMP +/- and then Light: then scroll through the features by continuing to press the LIGHT button. You exit the programming mode at any time by continuing to press the LIGHT button until you arrive back at the temperature display or by simply pausing for 30 seconds.

Filtration Cycles (Factory default is 1 hour, two times per day) Your filtration cycle may vary dependent on model and configuration.

Your swim spa will begin the first of two filtration cycles 5 minutes after it has been powered up. The second filtration cycle will start 12 hours later. To change the time when the filtration cycles run, power down the spa for 1 minute and then turn the power back on at the point in time you want the spa to filter. For example, if you want the spa to filter at 3 PM and 3 AM, power the swim spa down at 2:55 PM or 2:55 AM. This will reset when the swim spa will run the filter cycles. In the event that the power to the swim spa is interrupted, you will need to repeat this procedure.

Programming how long the spa will filter

The electronic controls will allow you to change the length of time the swim spa will filter the water. This can be useful if your usage patterns vary from light to heavy and/or you need more or less filtration time to aid in maintaining water clarity. To adjust the filtration times, press the listed buttons in the following sequence. Button presses must occur within 30 seconds of each other.

To Program:

1. Press the TEMP +/- button followed by the light button to enter the programming mode to filter settings (FLTR).
2. Press the TEMP +/- button to make a change to the desired length of time. (each press changes the time in 1 hour increments).
3. Press the LIGHT button to set your selection and exit the filtration time option. If you do not do this the choice will not be saved.

Mode (Ready mode is factory default - recommended)

This feature can be used for periods when you will be gone for an extended amount of time and don't want the swim spa running on a continual basis. Running the unit in "Ready" mode will ensure the spa is at full temperature and ready for use at any time. Running the unit in "Rest" mode will only allow the spa to heat during a scheduled filtration cycle. When in REST mode spa may display "RUN PMPS FOR TEMP" the pump needs to be running to display an accurate temperature, no corrective action is required. To access and change the mode, press the listed buttons in the following sequence. Button presses must occur within 30 seconds of each other. Ready and Rest indicators are shown under the temperature in the display.

To Program:

1. Press the TEMP +/- button followed by the light button to enter the programming mode.
2. Press the LIGHT button again to enter the "mode" option.
3. Press the TEMP +/- button to toggle between "Ready" and "Rest"²⁶ options.
4. Press the LIGHT button to set your selection and exit the filtration time option. If you do not do this the choice will not be saved.

V150 COSMIC AUDIO SYSTEM (Optional)

Please refer to the manufacturer's owner's manual for features, operation, and troubleshooting.

This system will support bluetooth connectivity to your hand-held device.

NOTE: Avoid water splashing on the stereo face. Never operate the stereo with wet hands. Moisture can damage internal components. Water intrusion into stereo is not covered under warranty. See manufacturer's owner's manual for coverage information. Consult your Limited Warranty for more information about coverage.

CAUTION - Risk of Electric Shock. Replace components only with identical components. Do not operate the audio controls while inside the spa.

SWIM SPA CONTROLS: V174S & V174K

MAIN TOUCH SCREEN ICONS

- A. Display off button: Touch this to turn off the display at any time.
- B. Heat Mode: R = Ready IR = Rest
- C. Ozone: If O₃ is being displayed, ozone is on. If it is not being displayed, it is off.
- D. Filter cycle: F₁ = filter cycle 1. F₂ = filter cycle two. If no icon is being shown, the unit is not in a programmed filter cycle currently.
- E. Smart Clean: Indicates the unit is in a smart clean clean-up cycle.
- F. Soak Feature: If the “S” is shown, the unit is in soak mode.
- G. Panel lock: If illuminated, the panel is locked. The panel can only be locked or unlocked via the Control-My-Spa app.
- H. Wi-Fi connection indicator: Shows signal strength of local connection if equipped.
- I. Time of day display: May be displayed in 12hr and 24hr modes.
- J. Current Water Temperature: May be displayed in F or C.
- K. Heater status: If red, the unit is calling for heat and the heater is on.
- L. Spa operation button: Touching this button will access pump, light and soak control.
- M. Jewel Lighting (Optional Feature): Touching this button will access the Jewel lighting control for interior and exterior lighting.
- N. Bluetooth Audio (Optional Feature): If equipped, touching this button will access the Bluetooth audio system.
- O. Settings button: Touching this will open the Settings screen to allow adjustment to various user settable features.
- P. Invert button: Touching this button will flip the operational screens 180 degrees. Some screens will not invert such as the Settings screen.



NOTE: References B through I are system indicators only. References A and, K through P, are functioning indicators that are activated when touched.

WAKING UP THE DISPLAY

The touchscreen panel will automatically turn off at a pre-set time. The factory default is 5 minutes but can be changed from 1 to 5 minutes in one minute increments. It can also be turned off manually on the main screen by touching the small crescent moon in the upper left hand corner of the screen.

- Touch the screen anywhere on the surface of the control panel
- The screen will wake up and a small hand pointing the “1” with a circle around it will be displayed. Touching that icon will open up a second screen
- Once the second screen has opened up, it will show a small hand pointing to the “2” with a circle around it. Touching that icon will wake up the screen and allow for full display and operation



NOTE: Sometimes the panel will react a little slower to the touch if either the panel surface or your fingers are very wet. Simply brushing off the water will allow for regular use in most cases.

SWIM SPA CONTROLS: V174S & V174K

SETTING THE TIME OF DAY

To access the screen to set the time of day, please follow these steps.

Note: If you need to go back to a previous screen, touch the back arrow.

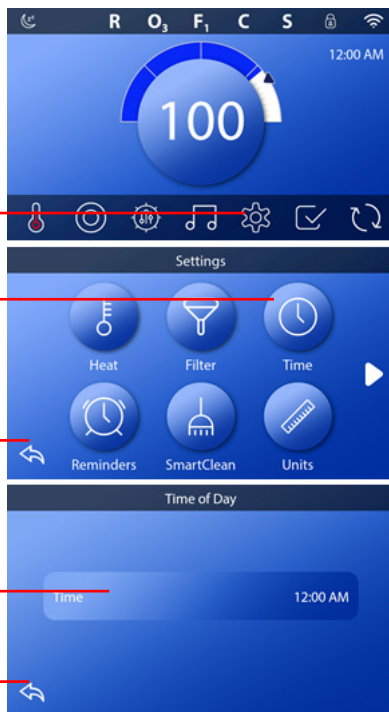
1. On the home screen, touch the Settings icon located on the bottom of the display

2. Touch the Time button

Back button

3. To adjust the time, use your finger to slide the scale up and down for hours, minutes and AM/PM. Once you have chosen the desired time, press the “check” mark to lock the time in. Should you decide to cancel the selection, touch the “X” to cancel.

Back button



SWIM SPA CONTROLS: V174S & V174K

SET THE TEMPERATURE

In this example we will set the Set Temperature to 102°F (39°C).

- Press the water temperature display button (A) to make the temperature menu appear (B). The center box with the arrow (C) indicates the current Set Temperature.
- If 102 (39) is already showing, but just not centered (D), touch it to center it (E).
- If 102 (39) is not showing (B), swipe the temperature menu until 102 (39) appears (D).
- If 102 (39) appears after swiping but does not stop in the center box (D), press 102 (39). Pressing 102 (39) makes it shift to the center box (E).
- Press the water temperature display (A) to make the temperature menu disappear. The Set Temperature is now 102 (39).

How do I know when the heater is On?

The center of the Heater Status icon turns red (A) when the heater is On. The Heater Status icon appears in the top left corner of the Spa screen when the heater is On.



SWIM SPA CONTROLS: V174S & V174K

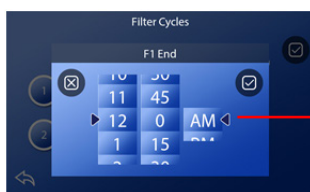
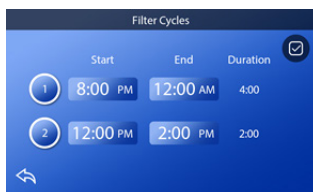
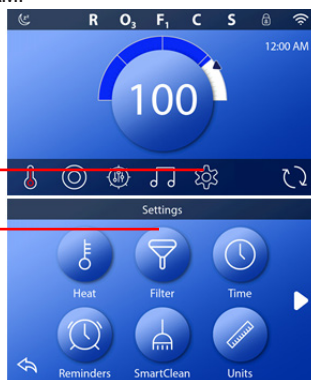
SETTING FILTRATION CYCLES

Should you want to change your factory default filtration settings, see the instructions below. The factory default settings are for two filtration cycles per day for 1.0 hour per cycle. The first cycle with start at 8:00 PM and the second cycle will start at 8:00 AM.

NOTE: If you need to go back to a previous screen, touch the back arrow.

1. On the home screen, touch the Settings icon located on the bottom of the display
2. Touch the Filter icon
3. To adjust the filter time, touch within the frame of the desired time box that you want to change. That will bring up the adjustment screen.

NOTE: If you do not want the second filtration time to run, touching the “2” will turn it off, followed by pressing the “check”. It will be active when the white ring illuminates around the number.



4. Use your finger to slide the scale up or down to the desired hours, minutes and AM/PM. Once selected, press the “check” mark to lock

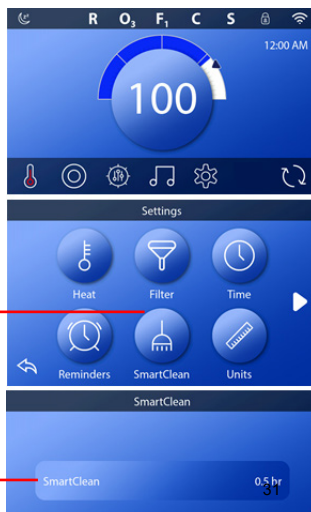
the time in. Should you decide to cancel the selection, touch the “X” to cancel.

SETTING SMARTCLEAN RUN TIMES

Smart Clean is a clean-up cycle that will automatically activate 30 minutes after the last press of any button was made. This is helpful feature to keep water clean shortly after use. The run time choices range from 0 hours up to 4 hours in 30 minute increments. The factory default is 0.5 hrs.

Access the screen to change the length of run time:

1. On the home screen, touch the Settings icon located on the bottom of the display
2. Touch the SmartClean icon
3. To adjust run time, touch SmartClean button and it will open up another screen with the run-time selections. Use your finger to slide the scale up and down. Once you have chosen the desired run time, press the “check” mark to lock the time in. Should you decide to cancel the selection, touch the “X” to cancel.



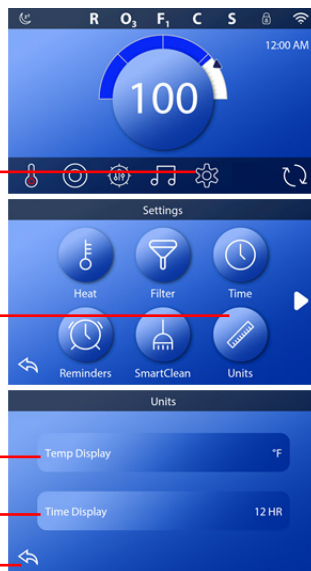
SWIM SPA CONTROLS: V174S & V174K

SETTING THE UNITS

Features found in the Units screen allow for changing how the temperature scale and time are displayed on the home screen.

To access the screen to make these changes, please follow these instructions

1. On the home screen, touch the Settings icon located on the bottom of the display
2. Touch the Units button
3. To change the temperature display from Fahrenheit to Celsius, touch the "Temp Display" box to toggle between the two choices.
4. To change the way the time is displayed, touch "Time Display" box to toggle between 12HR and 24HR.
5. To save and return to the Settings screen, press the back button two times.



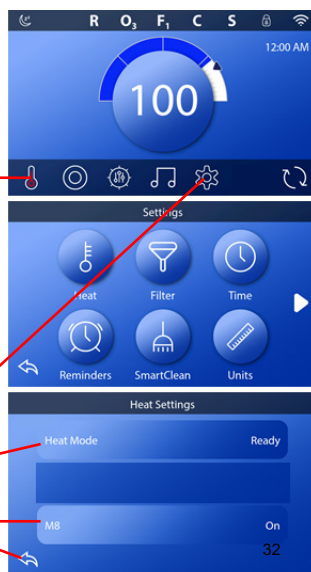
SETTING THE HEAT SETTINGS

Making changes to the heat settings will allow for a reduction in potential operating costs should you expect to not use your unit for extended periods of time.

- Ready mode will allow your spa to heat at all times it may need to.
- Rest mode only heats during a filtration mode to conserve energy.
- M8 is an automatic learning mode that helps conserve energy based on usage patterns.

To access the screen to make any changes, please follow these instructions.

1. On the home screen, touch the Settings icon located on the bottom of the display
2. Touch the Heat button
3. Touching the "Heat Mode" window allows you to toggle between Ready and Rest.
4. Touching the "M8" window toggles it on and off.
5. To save and return to the home screen, press the back button two times.







SWIM SPA CONTROLS: V174S & V174K

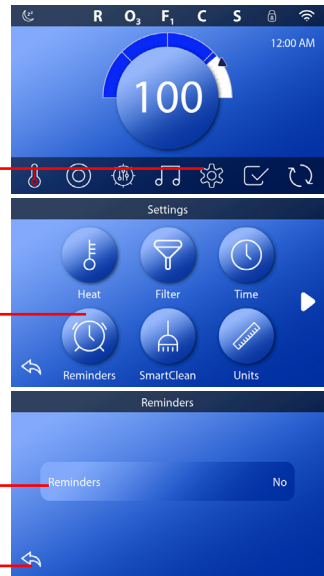
TURNING ON REMINDERS

Reminders can be helpful to automatically notify you when general maintenance items needs to be checked. Because usage patterns can vary widely from one owner to another, the reminders are turned off by default. Below is a list of reminders that will become active if turned on.

- Check Sanitizer
- Change Cartridge
- Clean Filter
- Change Filter

To access the screen to turn reminders on or off, please follow these instructions.

1. On the home screen, touch the Settings icon located on the bottom of the display. 
2. Touch the Reminders button. 
3. Touching the Reminders window allows you to toggle between on and off. 
4. To save and return to the home screen, press the back button two times. 



SWIM SPA CONTROLS: V174S & V174K

SETTING THE LANGUAGE

The control panel is able to display the following languages

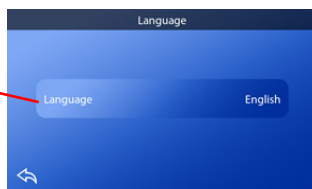
- English (Factory Default)
- Spanish
- German
- French
- Swedish

To access the screen to make any changes, please follow these instructions.

1. On the home screen, touch the Settings icon located on the bottom of the display
2. Touch the Language button



3. Touch inside the Language box to open the selection screen



4. Use your finger to scroll up or down through the various language choices. To make a selection, move the chosen language to line up between the two black arrows. Once there, touch the "check" box on the upper right hand corner of the screen to select. You may also touch the "X" to cancel the selection. Use the back button to return to the home screen.



SWIM SPA CONTROLS: V174S & V174K

SETTING THE PANEL DISPLAY

You can make changes to how long the panel stays illuminated as well as altering the user control sequence for waking the panel up.

To access the screen to make any changes, please follow these instructions.

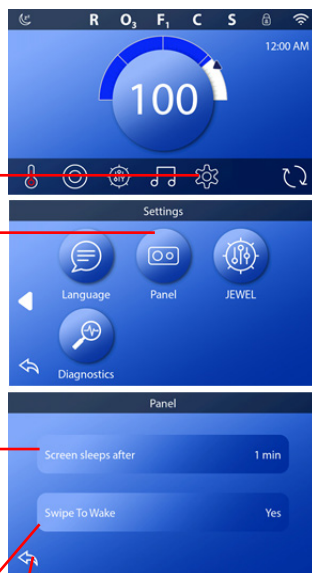
1. On the home screen, touch the Settings icon located on the bottom of the display

2. Touch the Panel button

3. Touching the “Screen sleeps after” button will open a secondary window allowing you to choose between 1 and 5 minutes of screen-on-time. Once the secondary window opens up, use your finger to scroll up and down to select the time. Once selected, touch the “check” mark to accept or the “X” to cancel.

4. Touching “Swipe to Wake” toggles between multi-touch screen waking or just one touch. In situations where large amounts of water are present, the multi-touch sequence is recommended.

5. To save and return to the home screen, press the back button two times.



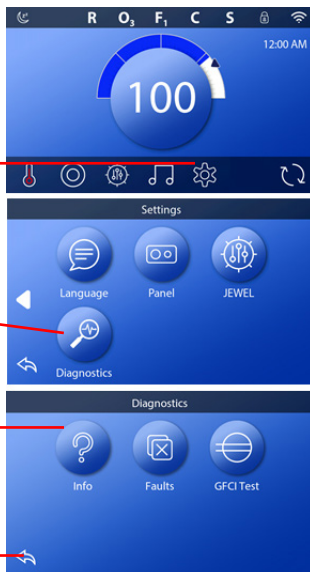
SWIM SPA CONTROLS: V174S & V174K

VIEWING DIAGNOSTICS

This feature can be useful when reviewing system information or any fault codes or occurrences that may have happened during operation. Additionally you can run periodic GFCI tests to ensure the electrical supply system is operating properly.

To access this feature, please follow these instructions.

1. On the home screen, touch the Settings icon located on the bottom of the display
2. Touch the Diagnostics button
3. Touching any of the three available buttons will open up screens allowing you to view and scroll through current information on the system. In the GFCI screen, you can touch the “test” button to automatically test the GFCI. You will have to reset your circuit breaker after performing this test to turn power back on to your spa.
4. To return to the home screen, press the back button two times.

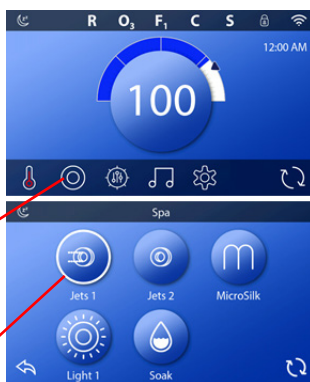


CONTROLLING SWIM SPA FUNCTIONS

Access to spa functions are assembled on one easy to use screen. Controlling the pumps, lights, and other features can be done as desired by the user in the spa control screen.

To access this feature, please follow these instructions.

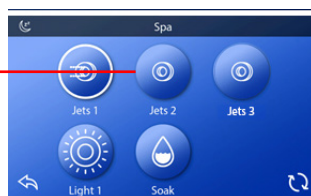
1. On the home screen, touch the double circle icon located on the bottom of the display
2. When the “Spa” screen appears, simply touching each button will activate the function as follows.



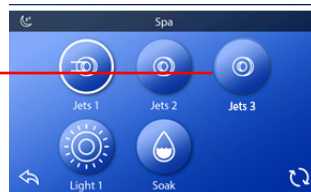
Jets 1: Unless already on due to a heating or filtration cycle, touching this button once will turn on low speed. You will know it is on when a white ring around the button is present. Touching the button a second time will turn the pump on to high speed. You will see the internal jet bubble icon increase in size. Touching the button again will turn the pump off. If left on, high speed will run for 15 minutes and then switch down to low speed for 15 minutes before turning off. In some cases the pump will continue to run on low speed for filtering or heating.

SWIM SPA CONTROLS: V174S & V174K

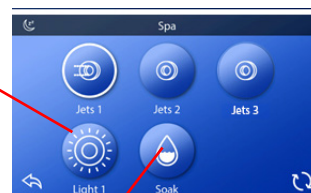
Jets 2: Controls bank of three jets on the swim end. Touching this button once will turn on to low speed. You will know it is on when a white ring around the button is present. Touching the button a second time will turn the pump on to high speed. You will see the internal jet bubble icon increase in size. Touching the button again will turn the pump off. If left on, high speed will run for 15 minutes and then switch down to low speed for 15 minutes before turning off.



Jets 3: Touching this button once will turn on to low speed. You will know it is on when a white ring around the button is present. Touching the button a second time will turn the pump on to high speed. You will see the internal jet bubble icon increase in size. Touching the button again will turn the pump off. If left on, high speed will run for 15 minutes and then switch down to low speed for 15 minutes before turning off.



Light: Touching this button will turn on the interior LED lights. Touching this button repeatedly will cycle through an array of colors options. Touch the button to turn off the lights at any point. If left on, the lights will automatically turn off after 60 minutes. The button will have a white ring around it when it has been turned on.



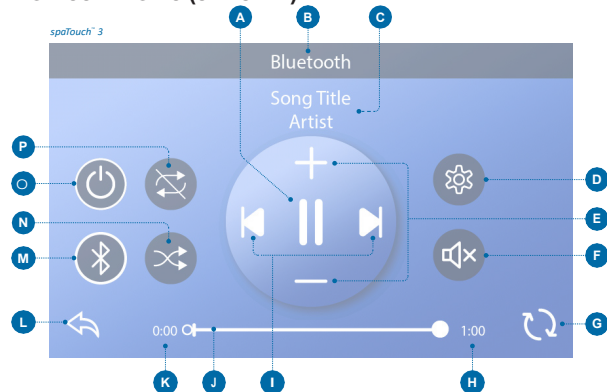
Soak: Touching this button will turn off all pumps that may be running at the time and you will know the feature has been activated when it has a white ring around the button. This feature allows the user to soak in completely still water if they choose. Light functions will continue to operate without disturbing this feature. If selected, the soak function will continue for 60 minutes and then automatically resume normal operation. Simply pressing any of the pump buttons will override the soak feature and resume normal operation. Note: Because no pumps run while the soak feature is on, heating of the water will not occur.

Pressing the back button will take you back to the home screen.



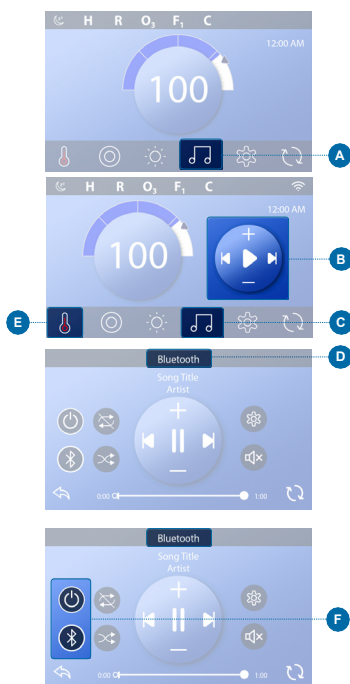
SWIM SPA CONTROLS: V174S & V174K

BLUETOOTH AUDIO (OPTIONAL)



- A- Play/Pause
- C - Song Title, Artist
- E- Volume Up/Down
- G- Invert Display
- I - Track Next/Previous
- K - Elapsed Time
- M- Input Modes: Bluetooth, Line In
- O - Power

- B- Bluetooth Screen
- D - Settings
- F - Mute Control
- H- Remaining Time
- J- Progress Bar
- L - Back
- N- Shuffle Control
- P- Repeat Control



NAVIGATE TO THE BLUETOOTH SCREEN

Follow these steps to navigate to the Bluetooth screen (D).

If connected to a music source:

- 1- Press the Music button (A) to view the Mini Player (B).
- 2- Press the Music button again (C) to enter the Bluetooth screen (D).

If not connected to a music source:

- 1 - Press the Music button (A) to enter the Bluetooth screen (D).

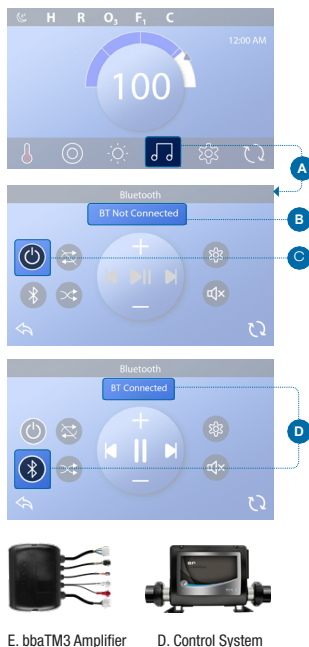
About the Mini Player:

The Mini Player (B) controls play, pause, track forward/back, and volume up/down.

Hide the Mini Player by pressing the Heater Status button (E) twice. The first press displays the Set Temperature/Time in the Mini Player. The second press hides the Mini Player.

NOTE: If these buttons (F) appear and both have white circles as shown here, your music source is connected. If they appear as shown except either one of them does not have a white circle, your music source is not connected.

SWIM SPA CONTROLS: V174S & V174K



PAIR SMART DEVICE

Follow these steps to pair your smart device with the bbaTM3 amplifier (E).

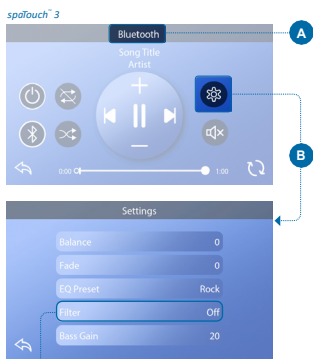
1. Power up the spa.

IMPORTANT: All paired devices are erased from the bbaTM3 amplifier when power to the spa is cycled. While the bbaTM3 amplifier forgets your smart device when the spa power is cycled, your smart device might not forget the bbaTM3 amplifier. In this case, an error message may appear if you try to reconnect. You may need to have your smart device “forget” the bbaTM3 amplifier, and only after that connect to the bbaTM3 amplifier again to avoid such error messages.

2. Press the music button (A) to enter the Bluetooth screen. The music button (A) may not appear if control system (F) did not detect the bbaTM3 amplifier (E).
3. Press the power button (C) to turn On the bbaTM3 amplifier. This message will appear (B) when your smart device is not connected/paired with the bbaTM3 amplifier. “BT” stands for Bluetooth.
4. On your smart device, turn On the Bluetooth function.
5. On your smart device, click search for Bluetooth device. Make sure the smart device is close enough to the spa tub, so the smart device can pair with the bbaTM3 amplifier.
6. On your smart device, select “BBA Spa Music” from the pairing list. If “BBA Spa Music” does not appear, repeat steps 1 - 5.
7. Some smart devices will connect automatically, but with others you will need to select “Connect.” Once connected, a white ring appears around the Bluetooth button and “BT Connected” appears at the top of the screen (D). Play music on your smart device. If the music plays from the speakers in the spa, the connection is complete.

NOTE: bbaTM3 operates up to 100 feet in open air. Ranges vary as they are dependent on installations and environments.

SWIM SPA CONTROLS: V174S & V174K



There are two types of filters: Low Pass and High Pass. These filters apply to the rear speaker output only. Select Low Pass for subwoofers or High Pass for tweeters. Select OFF if filtering is not desired. Regular speakers do not require filtering.

ADJUST AUDIO SETTINGS

Follow these steps to adjust the audio settings.

1. Navigate to the Bluetooth screen (A); refer to page 4.
2. Press the Settings button (B) to enter the Settings screen.
3. Make desired changes to the audio settings.

SELECT INPUT MODE

The following input modes are available: Bluetooth, Line In. All control systems are equipped with Bluetooth mode. However, control systems may or may not have Line In, as this input mode is optional.



Follow these steps to select the input mode of the bbaTM3 amplifier.

1. Navigate to the Bluetooth screen (A); refer to page 4.
2. Confirm that the bbaTM3 amplifier is turned On. If it is On, a white ring appears around the Power button (B).
3. Press the Input button (C). If the Bluetooth input mode is selected, this appears (C or D). If the Line In input mode is selected, this appears (E and F).

If you select the Line In input mode (F), you can connect any headphone output to the Aux In connectors (H), but you will likely need an adapter cable because of the different connectors.

Only those settings which remain on the Line In screen (E) are available when using Aux In (H).

The terms "Line In" (E) and "Aux In" (H) refer to the same thing.

The Mini Player (G) on the Main screen looks like this when Line In is the selected input mode. For more information about the Mini Player, view page 4.

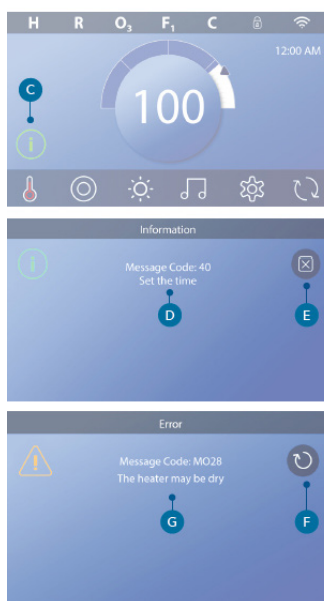
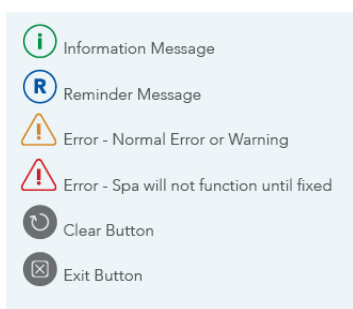
SWIM SPA CONTROLS: V174S & V174K

MESSAGE BUTTONS

Message buttons provide reminders to help you keep your spa running smoothly. Message buttons also provide warning information that helps spa technicians with troubleshooting.

When a message button appears (C), press it to view the corresponding message (D) or (G). Press the Exit button (E) to go back to the Main screen, or press the Clear button (F) to dismiss the message.

Buttons vary depending on the type of message. View the list below.



MESSAGES

General Messages

Several alerts and messages may be displayed in a sequence.

Possible freezing condition

A potential freeze condition has been detected, or the Aux Freeze Switch has closed. All water devices are activated. In some cases, pumps may turn on and off and the heater may operate during Freeze Protection. This is an operational message, not an error indication.

The water is too hot – M029*

The system has detected a spa water temp of 110°F (about 43°C) or more, and spa functions are disabled. System will auto reset when the spa water temp is below 108°F (about 42°C). Check for extended pump operation or high ambient temp.

The water level is too low

This message can only appear on a system that uses a water level sensor. It appears whenever the water level get too low (or the water level sensor is disconnected), and automatically disappears when the water level is adequate. Pumps and the heater turn OFF when this message appears.

SWIM SPA CONTROLS: V174S & V174K

HEATER-RELATED MESSAGES

The water flow is low – M016**

There may not be enough water flow through the heater to carry the heat away from the heating element. Heater start up will begin again after about 1 minute. See “Flow Related Checks” below.

The water flow has failed* – M017**

There is not enough water flow through the heater to carry the heat away from the heating element and the heater has been disabled. See “Flow Related Checks” below. After the problem has been resolved, reset the message*.

The heater may be dry* – M028**

Possible dry heater, or not enough water in the heater to start it. The spa is shut down for 15 minutes. Reset this message* to reset the heater start-up. See “Flow Related Checks” below.

The heater is dry* – M027**

There is not enough water in the heater to start it. The spa is shut down. After the problem has been resolved, you must reset the message* to restart heater start up. See “Flow Related Checks” below.

The heater is too hot* – M030**

One of the water temp sensors has detected 118°F (about 48°C) in the heater and the spa is shut down. You must reset the message* when water is below 108°F (about 42°C). See “Flow Related Checks” below.

Flow-related checks

Check for low water level, suction flow restrictions, closed valves, trapped air, too many closed jets and pump prime. On some systems, even when spa is shut down by an error condition, some equipment may occasionally turn on to continue monitoring temperature or if freeze protection is needed.

SENSOR-RELATED MESSAGES

Sensors are out of sync – M015**

The temperature sensors may be out of sync by 3°F. Call for Service if this message does not disappear within a few minutes. Sensors are out of sync -- Call for service*

– M026**

The temperature sensors ARE out of sync. The fault above has been established for at least 1 hour. Call for service.

Sensor A Fault, Sensor B Fault

– Sensor A: M031, Sensor B: M032****

A temperature sensor or sensor circuit has failed. Call for service.

SWIM SPA CONTROLS: V174S & V174K

SYSTEM-RELATED MESSAGES

Program memory failure* – M022**

At Power-Up, the system has failed the Program Checksum Test. This indicates a problem with the firmware (operation program) and requires a service call. The settings have been reset.

(Persistent Memory Error)* – M021**

Contact your dealer or service organization if this message appears on more than one power-up.

The clock has failed* – M020**

Contact your dealer or service organization.

Configuration error

The spa will not Start Up. Contact your dealer or service organization.

The GFCI test failed

(System Could Not Test the GFCI) – M036**

(North America Only) May indicate an unsafe installation. Contact your dealer or service organization.

A pump may be stuck on – M034**

Water may be overheated. POWER DOWN THE SPA. DO NOT ENTER THE WATER. Contact your dealer or service organization.

Hot fault – M035**

A Pump Appears to have been Stuck ON when spa was last powered. POWER DOWN THE SPA. DO NOT ENTER THE WATER. Contact your dealer or service organization.

REMINDER MESSAGES

Reminder messages can be reset from the panel. Press the Clear Icon to reset the Reminder message.

General maintenance helps

Reminder Messages can be suppressed by using the Reminders Screen.

Check the sanitizer

May appear on a regular schedule, i.e. every 7 days. Check sanitizer level and other water chemistry with a test kit and adjust with the appropriate chemicals. You may set a reminder in the Reminders screen to check consistently on your sanitizer levels. The reminder does not measure if the actual sanitizer level is low or high, just that you should test appropriately.

Clean the filter

May appear on a regular schedule, i.e. every 14 days. Clean the filter media as instructed by the manufacturer.

Change Cartridge

May appear on a regular basis. Set a reminder and replace mineral cartridge after 120 days. You may feel material inside the cartridge however, this material is spent and will no longer work in conjunction with your sanitizer.

SWIM SPA CONTROLS: V174S & V174K

Change the water

May appear on a regular schedule, i.e. every 90 days. Change the water in the spa on regular basis to maintain proper chemical balance and sanitary conditions. You may want to set a reminder to purge, drain and fill your swim spa every 90 days to avoid total dissolved solids buildup in your water which can render your sanitizer ineffective.

Change the filter

May appear on a regular schedule, i.e. every 180 days. Filters should be replaced occasionally to maintain proper spa function and sanitary conditions. Filters should be inspected for wear, tear or damage every 180 days to assure your swim spa is functioning properly.

MISCELLANEOUS MESSAGES

Set the Time-of-Day

When a control system that displays this message is powered On, its time-of-day is initialized to 12:00 PM. Setting the proper time-of-day is important for determining filtration times and other background features.

Communications error

The control panel is not receiving communication from the System. This can appear briefly during system start-ups. This is normal. If it does not go away quickly, Call for service.

Test software installed

The Control System is operating with test software. Call for service.

MESSAGE NOTES

Some messages include the “Call for Service” text as it requires a service technician to fix the problem.

If the panel is locked and a message alert appears, you will be taken to the Lock Screen (where you will need to Unlock the panel) before you can clear the message.

Touching the Error/Warning/Reminder/Info Icon on the Message Screen will take you to the System Information Screen to allow for troubleshooting over the phone or for a field service tech to better understand what is going on. Exiting the System Information Screen will take you back to the Message Screen in that situation.

PLEASE NOTE: The following corrective actions may be performed by the spa owner. If the trouble cannot be corrected in the steps below, please contact your authorized dealer for service. (Improper servicing by an unauthorized service provider or spa owner could result in damage not covered by the warranty and could cause serious injury.)

EQUIPMENT WILL NOT OPERATE

- Check the control panel LCD window for diagnostic code.
- Check the circuit breaker on the main circuit panel.

INADEQUATE JET ACTION

- Be sure the slice valves are completely open.
- Check for obstruction or restrictions at suction guard(s) or filters, such as leaves, dirty filters, etc.
- Check to ensure water is at proper level and add water if needed.

NO HEAT

- Check temperature displayed in the LCD window for desired temperature setting.
- Inspect the filter cartridge for dirt and debris.
- Check that the water is at proper level, two-thirds up the skimmer fins.
- Check to make sure spa is in "Heat Mode". See above for programming the temperature range.
- Lower ambient temperatures may result in heat loss.

NOTE: Do not expect instant hot water from the jets. It will take the heater 12-24 hours to heat the water to the temperature you desire.

LIGHT DOES NOT WORK

- Press the LIGHT pad on the control panel.

LCD DIAGNOSTIC MESSAGES

The advanced technology built into the spa allows it to perform a number of self-diagnostic system checks and it can display a variety of messages in the LCD window on the control panel.

TOO COLD: Freeze protection has been activated and no correction action is required. This is normal on a fresh fill.

WATR TOO HOT: One of the sensors has reached 110°F (43°C) . Do not enter the water; contact your dealer for service.

HTR FLOW LOSS: There is not enough water flow through the heater. Clean or install new filter(s) and check that the slice valves or fully open. Call dealer for service.

HTR MAY BE DRY: There is little to no water flow through the heater. Check that the slice valves are fully open. Contact dealer for service.

HTR TOO HOT: One of the sensors has reached 118°F (48°C). Do not enter the water. Contact dealer for service.

PRES BTTN TO RSET: Some codes require a button press or power to be removed and restored.

SNSR BAL-- ANCE: The sensors are reading a temperature of 2°F (17°C) or more. This can occur on a fresh fill, no corrective action required. Contact dealer for service.

SNSR A: Sensor A is non-functional. Contact dealer for service.

SNSR B: Sensor B is non-functional. Contact dealer for service.

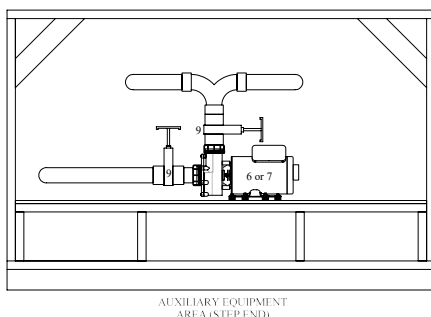
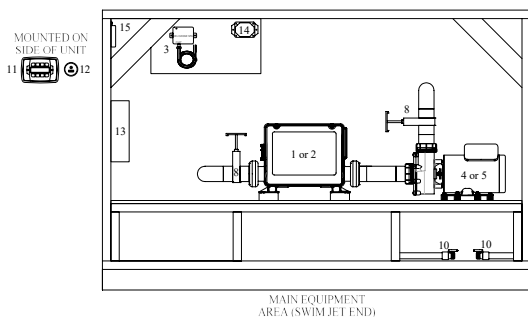
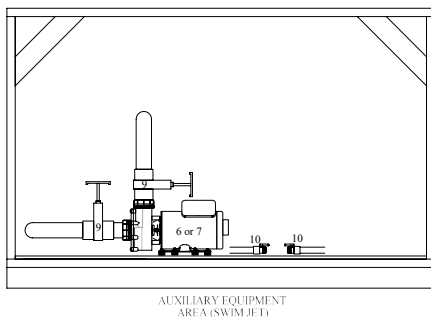
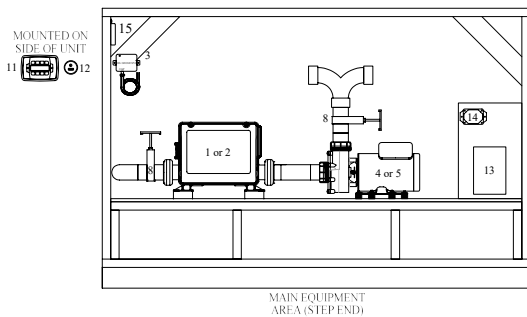
MEM FAIL: There is a problem with the firmware. Contact dealer for service.

MEM RSET: Memory has failed. Contact dealer for service.

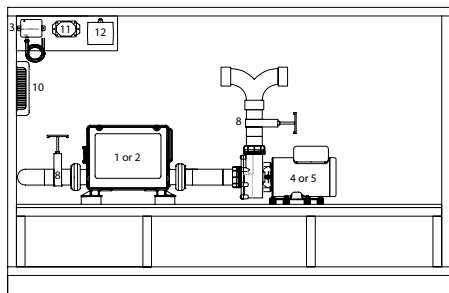
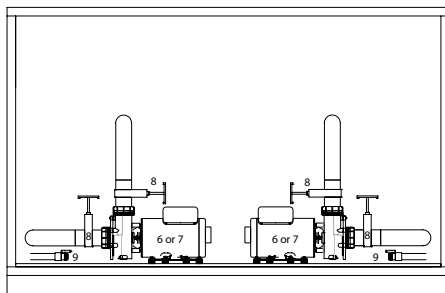
CNFG FAIL: Contact dealer for service.

STUK PUMP: Water may be overheated (DO NOT ENTER THE WATER). Contact dealer for service.

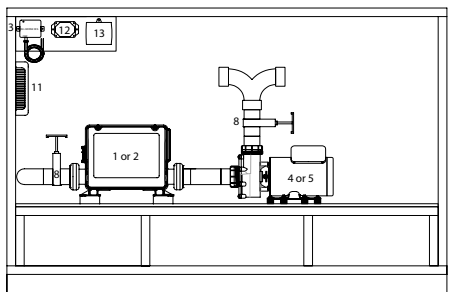
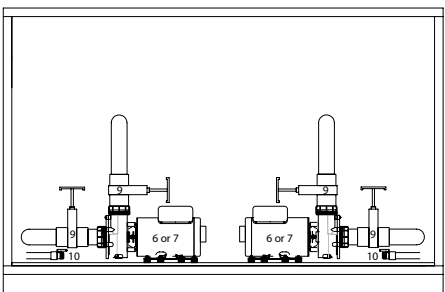
HOT FALT: A pump may be stuck on. Contact dealer for service.

MODEL V150P

MODEL V150W


#	Component	Qty.
1	Control box and heater	1
3	Ozonator (optional)	1
4	2-speed pump	1
6	2-speed pump	1
8	Check valve	1
9	Slice valves	4
10	Hose bib drain	2
11	Hi-flow drain	1
12	Cosmic audio unit (optional)	1
13	Audio expansion port (optional)	1
14	Power supply (optional)	1
15	Starlights™ LED light system (optional)	1
16	ControlMySpa module (optional)	1

MODEL V174S

 MAIN EQUIPMENT
AREA (STEP-END)

 AUXILIARY EQUIPMENT
AREA (SWIMJET)

#	Component	Qty.
1	Control box and heater	1
3	Ozonator (optional)	1
4	2-speed pump	1
6	2-speed pump	2
8	2" Slice valves	2
9	Hose bib drain	2
10	Audio system (optional)	1
11	Starlights™ LED light system (optional)	1
12	ControlMySpa module (optional)	1

MODEL V174K

 MAIN EQUIPMENT
AREA (STEP-END)

 AUXILIARY EQUIPMENT
AREA (SWIMJET)

#	Component	Qty.
1	Control box and heater	1
3	Ozonator (optional)	1
4	2-speed pump	1
6	2-speed pump	2
8	2" Slice valves	2
9	2.5" Slice valves	4
9	Hose bib drain	2
10	Audio system (optional)	1
11	Starlights™ LED light system (optional)	1
12	ControlMySpa module (optional)	1

HOW TO PROLONG THE LIFE OF YOUR SWIM SPA

There are some simple steps you can take to prolong the life of your hot tub. Please follow the guidelines listed below to ensure the most trouble-free and enjoyable use of your spa.

Rinse your feet

Please remember to rinse your feet before getting into the hot tub. This will help prevent sand and dirt from entering the plumbing system where it can clog valves and plug filters.

For beaches or coastal areas

If you are in an area prone to debris, such as fine sand or dirt, around or near the hot tub you may want to use a suction sock to help prevent debris from being drawn into the plumbing by the suction fittings. Suction socks are available from your Marquis Dealer.

Maintain your valves

If one of your valves begins to feel hard to turn, please remove the valve and rinse it. To remove the valve, please turn the power off to the spa and remove the handle for the valve. Remove the top cap off of the valve by pushing inward and lifting the decorative top off to expose the cap base and access the valve insert. Pull straight up on the insert, removing the valve stem. Clean and return the valve stem, then replace decorative top cap by pressing back into place. Slight scratches may be smoothed using fine grit sandpaper to remove scratches prior to re-installation.

Instructions for removing and changing Jetpods

To remove:

1. Using the provided tool, carefully place the head of the jet insert removal tool in-between the top of the dark gray Jetpod insert and the acrylic spa surface. Gently pry off the insert taking care not to scratch the acrylic surface.
2. To reinstall: gently press the Jetpod insert into the cavity. When you hear a click the Jetpod has been locked into place.

Keep the cover on

Always keep your hot tub cover closed when the spa is not in use. This helps prevent unwanted debris from entering the hot tub and prevents sun exposure that could damage the surface and the jets of the hot tub. For full warranty coverage, please note the spa must remain covered at all times when not in use.

Keep the water clear and balanced

Water chemistry is another important part of spa ownership. Please be sure to use only factory recommended products. In addition, please make sure you maintain proper pH and sanitizer levels. Drain and refill your hot tub with fresh water every 3 to 4 months. On a regular basis, please use a spa vacuum to remove dirt and sand that can be seen on the floor of the hot tub.

WEEKLY MAINTENANCE

Removing Debris

Remove any debris and leaves from the Vortex skimmers and suction guard(s) on the inside of the spa. Blocked intakes can impede the flow of water through the jetting system.

Water Level

Replenish the water level if necessary so that it is approximately two-thirds up the skimmer fins. (See STARTING YOUR SPA.) Low and high water levels can damage your spa. It is important to check your water level often.

MONTHLY MAINTENANCE

Filter Care

We cannot stress enough the importance of a clean filter for proper water filtration. Also, please use an original Marquis® Vector21 filter cartridge to assure the best performance. Marquis® filters have been engineered with specifications for material and comply with manufacturer's requirements for flow and pressure. Using an inferior product may diminish the hot tub performance. Dirty filters can restrict water flow, cause cloudy water, and prevent your chemicals from working properly. Dirty filters may also cause low flow from jets, poor water clarity and sensors to activate error codes. It is important to clean filters regularly. Certain water treatment products clear or clarify the water by coagulating microscopic particles and minerals together so that these larger particles may be effectively trapped in the filter. A filter clogged with debris and calcium deposits does not trap particles properly. Soak your filter cartridges in Marquis® *Rapid Action Filter Cleaner* monthly.

Removing the Filter

Unscrew the filter counter-clockwise and lift filter out.

Reinstalling the Filter

Screw the filter in clockwise while aligning the filter into the Vortex skimmer chamber.

CAUTION: Overtightening of the filter can cause the filter or filter housing to crack. Tighten filter until it is snug.

NOTE: Filters and filter lids do not qualify for labor coverage. These parts may be purchased or exchanged under warranty at your authorized Marquis® Dealer.

Leakage Detection

Open the equipment door and check for signs of water leakage around the pump(s). Pump seals wear out over time, especially with improper water chemistry. Early detection of pump seal failure can significantly reduce repair costs. Pump seals, heater gaskets and pump gaskets must be checked each month to ensure they are not leaking. Further damage caused by a leak from any component is not covered under the warranty.

EVERY THREE TO FOUR MONTHS

Draining and Filling the Vessel

The average vessel needs to be drained every three to four months. After months of continually adding chemicals to the water and introducing body oils and lotions, the water can be difficult to manage and chemicals are not as effective as usual. You may also notice excessive foaming. More frequent draining may be required depending on use.

Draining the Vessel

1. Turn off the power to the vessel.
2. Open the equipment compartment (see EQUIPMENT DIAGRAM). Remove the hose bib cap from the connection and attach a hose. There are two hose bibs used to drain the water from the vessel. Due to the size of the vessel, you may want to use a sump pump to speed up the process. The vessel is equipped with a large discharge hose that will drain the unit very quickly. To use, remove the cap on the end of the hose and pull the hose out to extend it. Allow water to discharge away from the vessel. Open the handle on the gate valve to start the flow of water.
3. Open the drain valve. Gravity causes the water to drain out of the hose.
4. When the vessel is empty, close the drain valve and remove the hose. Reinstall the hose bib plug.

NOTE: Keep the drain valve closed at all times except when draining the vessel (do not rely on the cap to stop the flow of water). Not doing so could result in damage to the drain valve due to freezing water.

Clean the Interior Surface

Once the vessel is drained, clean the interior surface thoroughly – especially at the water line. We suggest the *Glove Sponge* to clean without scratching.

Use Spa Bright for surface cleaning and to shine and gloss, try Gloss and Guard to create a protective layer on the vessel's surface – other products should be avoided except as stated below.

To maintain the high gloss and elegant look, just follow these simple steps: For normal care and cleaning use a soft cloth or sponge and water. Rinse well and dry with a soft, clean cloth. Never use abrasive cleaners. Do not allow your surface to come into contact with products such as ketones or esters such as acetone or ethyl acetate (nail polish remover), Wintergreen oil (methyl salicylate), nail polish, dry cleaning solution or other organic solvents, lacquer thinners, gasoline, aromatic solvents, citrus cleaners, pine oil, etc. Remove dust and dry dirt with a soft, damp cloth. Clean grease, oil, paint and ink stains with diluted isopropyl (rubbing) alcohol (do not let alcohol pool or remain on the surface). Dry with a clean, soft cloth. Avoid using razor blades or other sharp instruments that might mar the surface.

NOTE: Due to the high-gloss, fine finish of the surface, imperfections in the surface texture may occur. A natural aging process can lead to a process called crazing. Fine spider web-like lines can form on the cosmetic surface over time after exposure to the elements and chemicals.

Crazing represents no structural weakening of acrylic and is not covered under the warranty. Fading, staining and discoloration may also occur but represent no structural degradation and are not covered under warranty.

NOTE: Do not leave an empty spa uncovered. Direct sunlight on the spa surface can cause severe damage or blemishing, cause fittings to discolor and can result in the voiding of any surface warranties.

Refill the Spa

Fill the spa with fresh water from a garden hose and balance the water as described in the Water Treatment section. The use of a *Pre-Filter* is recommended when filling especially in areas of high mineral content in the water. Attach to the end of a garden hose to filter out any grit and sediment that could accumulate in the spa and potentially scratch the spa surface.

AS NEEDED MAINTENANCE

Cover Care

It is recommended that you use Marquis *Cover Cleaner* to keep the Dura-Cover® clean and conditioned. Proper care of the cover increases the life and keeps it looking great in even the harshest conditions. **NOTE:** Do not use regular household products or products that contain silicone, alcohol, steel wool, or bleach.

1. Remove the cover from the spa and gently lean it against a wall or fence.
2. Use a garden hose to spray the cover and loosen and rinse away dirt or debris.
3. Use a large sponge and/or soft bristle brush with a very mild soap solution. Scrub the vinyl top in a circular motion. Rinse vinyl clean before a soap film has a chance to dry.
4. Scrub the perimeter of the cover and side flaps. Rinse clean with water.
5. Rinse off underside of cover with water only (no soap) and wipe clean with a dry rag.
6. Use *Cover Cleaner* to condition the top of the cover after cleaning.

Cushioned Headrest Care

To increase the life of your cushioned headrest, remove and clean them with care only when necessary.

Remove Cushioned Headrest

Slip your fingers under each end of the interior cushioned headrest part and gently pull straight towards you. Damage caused to attachments due to improper removal is not covered under warranty. Pillows and attachments are warranted to be free of defects at delivery only.

DuraWood™ Care

Clean the exterior of the spa with a mild soap and water solution. Cleaners that contain alcohol or high levels of solvents, along with Acetone, Nitrobenzene, and Cyclohexanol, can dissolve and discolor the DuraWood exterior.

Excess Debris

Grit and debris tracked into the spa should be removed with a spa vacuum.

Water Line

To avoid buildup of oils and lotions at the water line, clean the interior weekly or when needed. We suggest the Glove Sponge to clean without scratching.

NOTE: Do not use the same brush or sponge to clean the exterior of the spa and the interior of the spa. Soap and other product residue used on the outside of the spa can cause foaming of the spa water and scratches to the spa surface if used on the inside of the spa.

SUSPENDED USE OR WINTERIZING THE SPA

If you decide to discontinue the use of your spa for any extended period of time, we suggest you follow the steps below.

NOTE: During long periods of inactivity, damage can occur to equipment from condensation within the equipment compartment. Failure to follow these instructions during freezing conditions will result in cracked fitting(s) and glue joints, and other damage.

1. Turn off the power to the spa.
2. Drain the spa. (See DRAINING AND REFILLING THE SPA.)
3. Remove all residual water from the seating and footwell. If necessary, bail out the remaining water, then dry the spa with towels. A wet/dry vacuum is recommended for best results.
4. When using the wet/dry vacuum, place vacuum nozzle over each jet nozzle to remove water from plumbing lines, starting with the highest jet and finishing with the lowest jet. **NOTE:** The spa is equipped with a zone control which is used to divert water between different jet zones. The valve must be "open" to the particular jets you are vacuuming.
5. Unscrew the pump plug(s) from the pump(s). (See STARTING YOUR SPA.)
6. Again, using the wet/dry vacuum, place nozzle over the exposed pump opening(s) to remove excess water. The pump(s) should be removed from the spa and stored in a climate-controlled room.
7. Clean the spa interior.
8. Clean the filter cartridges.
9. Reinstall the DuraCover[®] and lock in place. **NOTE:** Direct sunlight on the spa surface can cause severe damage or blemishing and can result in the voiding of any surface warranties.

VACATION CARE INSTRUCTIONS

Short time periods: 3-5 days

1. Adjust the pH (see WATER CARE).
2. Sanitize the water by following the shock procedures (See WATER CARE).
3. Lock your spa cover in place with cover locks.
4. Upon return, shock-sanitize water, and test water before use.

Long time periods: 5-14 days

1. One day before leaving, set the temperature to its lowest level (approximately 80°F, 27°C).
2. Adjust pH as needed.
3. Shock-sanitize water.
4. Upon return, shock-sanitize water.
5. Return temperature to original setting.
6. Test water chemistry and adjust as necessary.

IMPORTANT CHEMICAL SAFETY PROCEDURES

1. Always keep chemicals out of reach of children.
2. Read product labels carefully prior to use.
3. When dissolving, always add chemicals to water, do not add water to chemicals. Some dry chemicals should be dissolved prior to adding them to the vessel. Using a clean container, dip some water from the vessel. Mix until dissolved, then add to circulating water.
4. **CAUTION:** Do not mix chemicals together. Add them separately to the vessel water.
5. All chemical products should be stored in a cool, dry, well-ventilated area where the average temperature does not exceed 90°F (32°C). Keep storage area clean of debris such as rags, newspaper, and combustible materials.
6. Keep chemicals away from open flame or other heat source. Do not smoke near chemicals. If a dry chlorine chemical fire should occur, use water only. Do not use a dry chemical fire extinguisher to attempt to put out the fire.
7. When adding chemicals, always keep the water circulating in the vessel with jets in a downward circular pattern for better chemical distribution. Add chemicals to the vessel water one at a time. Allow several minutes between any new chemical additions using the jet action to evenly distribute throughout the vessel.
8. It is important to leave the vessel cover open for 20-30 minutes while shock treating your vessel to avoid damage. Do not leave vessel unattended while cover is open. Damage such as discoloration or brittle vinyl due to chemical damage is not covered under the warranty.
9. After adding chemicals, wait the amount of time recommended on the chemical container before retesting your water for an accurate reading. Retest your vessel water before using.
10. If you have any questions or concerns about the correct procedures for handling chemicals, please contact your authorized dealer.

WATER CARE

There are three things necessary for clean, safe water:

1. **CIRCULATE:** Water has to be circulated regularly; it can not be stagnant.
2. **FILTER:** Water has to be filtered to remove particulates and debris.
3. **SANITIZE:** Water has to be sanitized to kill organisms like algae, bacteria and virus.

It is critical to maintain proper water balance to protect the vessel heater and other components from damage. Damage to the vessel surface and equipment caused by poor chemical or harsh chemical treatment is not covered under the warranty. Discoloration of jet faces, valves and controls are an indication of poor chemical maintenance or exposure to the sun.

Jet inserts and valves do not qualify for labor coverage. These parts can be purchased or exchanged under warranty at your authorized dealer. Gaskets and seals are not covered under the warranty.

The control system in your vessel will automatically circulate and filter. (See Vessel Control Operation, ConstantClean™ and SmartClean™ sections.) The sanitation requires minimal effort if done consistently and properly.

To sanitize vessel water, three things are required:

1. **BALANCE:** The water must be balanced so the sanitizer can work and vessel equipment is protected.
2. **SHOCK:** Shock to oxidize organics and maximize sanitizer efficiency.
3. **SANITIZE:** Maintain a proper level of sanitizer at all times.

UNDERSTANDING WATER BALANCE

Water balance is the interrelation of factors that determine the quality of the vessel water. The effectiveness of chemicals and other additives are dependent on all these factors working together or “in balance”. The primary elements to water balance are the calcium hardness, total alkalinity and pH. Always use water treatment products recommended for use in a vessel.

pH Balance

Keeping the pH balanced is the most critical component of water balance. Calcium hardness and total alkalinity act as buffers to stabilize the pH. When they are properly adjusted, the pH will be stable and easy to maintain. The pH is a measure of the relative acidity and basicity of the water. The ideal pH range is 7.4 - 7.6. When the pH falls below 7.2, the water can become corrosive. Low pH can cause damage to metal in the control system and heater, excessive sanitizer consumption, and skin irritation. A pH above 7.8 can be scale-forming and allow metals or minerals in the water to form deposits and stain vessel surfaces. pH above 7.8 can also cause eye and skin irritation.

Calcium Hardness

Do not use soft water in your spa. It is critical to have calcium in your water. The ideal range of calcium is between 150 – 250 ppm. The calcium hardness is normally adjusted when filling or refilling after draining the spa. High calcium levels can cause scale buildup on spa surfaces and equipment. Your spa can be protected against high mineral content by using *Metal & Stain Remover* per the directions on the container. Low calcium levels can cause spa water to become highly corrosive and damaging to the equipment components and plumbing. To raise calcium levels, use *Calcium Hardness Increaser*.

BALANCE

When initially filling or refilling your spa, follow these steps to achieve proper water balance.

IMPORTANT! Always follow instructions on the chemical container when adding chemicals.

1. Test the spa water using the appropriate test strip for your method of sanitation. If you are using the In-line system, each product has its own test strip for either a chlorine or bromine system.
2. If adjustments are needed for the pH and/or alkalinity, always balance the alkalinity before balancing the pH. The product(s) you should use to adjust pH and/ or alkalinity are *pH Increaser* or *Alkalinity Increaser* or *pH & Alkalinity Decreaser*. Make any additions per the directions on the bottle and then test and repeat if necessary until all readings are in the desired range.
3. Increase the calcium hardness if necessary.

SHOCK

Initial Treatment

Shock the spa using granular *Chlorine Sanitizer* or non-chlorine *Spa Shock*. Add directly to the spa per the instructions on the container. For the initial treatment, *Chlorine Sanitizer* is preferred as it will also establish a residual of sanitizer. For shocking after initial startup, you may use non-chlorine shock.

Maintenance Treatment

Once bacteria and other wastes are neutralized by the sanitizer, they stay in the water unless oxidized or shocked. Often called chloramines or bromamines, they create dull, cloudy water and can cause odor and eye or skin irritation. Shock treatment rids your spa of these wastes for clear, sparkling water. Shocking with non-chlorine *Spa Shock* or granular *Chlorine Sanitizer* is recommended once a week or whenever the water appears dull or cloudy or has a strong odor. Non-chlorine *Spa Shock* allows use of the spa 15 minutes after shock treatment.

NOTE: A strong bromine or chlorine odor typically indicates the spa needs to be shocked – not that there is too much bromine or chlorine in the water. A properly balanced spa that is shocked regularly will not have an odor.

Total Alkalinity

Alkalinity acts as a buffer to prevent the pH from changing as other substances are added to the water. Stability of the pH is directly related to the alkalinity. The alkalinity should be between 80 - 140 ppm. Alkalinity below 80 ppm makes it difficult to stabilize the pH. Alkalinity above 140 ppm may increase the pH and cause cloudy water, scaling, and decreased efficiency of the sanitizer.

NOTE: Alkalinity Increaser, pH Increaser and Alkalinity & pH Decreaser will affect both the pH and alkalinity. Generally, smaller additions will change the pH and have a very minor effect on the alkalinity. Larger additions will also affect the pH, but will have a much greater effect on the alkalinity. (Example: If the pH is very high and the alkalinity is within range, adding just a few smaller doses of pH and Alkalinity Decreaser instead of one large dose will reduce the pH with little effect on the alkalinity.)

Calcium Hardness

Do not use soft water in your vessel. It is critical to have calcium in your water. The ideal range of calcium is between 200 – 300 ppm. The calcium hardness is normally adjusted when filling or refilling after draining the vessel. High calcium levels can cause scale buildup on vessel surfaces and equipment. Your vessel can be protected against high calcium by using Metal & Stain Remover per the directions on the container. Low calcium levels can cause vessel water to become highly corrosive and damaging to the equipment components and plumbing. To raise calcium levels, use Calcium Hardness Increaser.

Balance

When initially filling or refilling your vessel, follow these steps to achieve proper water balance.

Important! Always follow instructions on the chemical container when adding chemicals.

1. Test the vessel water using a test strip or test kit. Determine the pH and alkalinity of the water.
2. If adjustments are needed for the pH and/or alkalinity, always balance the alkalinity before balancing the pH. The product(s) you should use to adjust pH and/or alkalinity are pH Increaser, Alkalinity Increaser or pH & Alkalinity Decreaser. Make any additions per the directions on the bottle and then test and repeat if necessary until all readings are in the desired range.
3. Increase the calcium hardness if necessary.

SHOCK

Initial Treatment

Shock the vessel using granular Chlorine Sanitizer Spa Shock. Add directly to the vessel per the instructions on the container. For the initial treatment, Chlorine Sanitizer is preferred as it will also establish a residual of sanitizer.

Maintenance Treatment

Once bacteria and other wastes are neutralized by the sanitizer, they stay in the water unless oxidized or shocked. Often called chloramines or bromamines, they create dull, cloudy water and can cause odor and eye or skin irritation. Shock treatment rids your vessel of these wastes for clear, vessel sparkling water. Shocking with non-chlorine Spa Shock or granular Chlorine Sanitizer is recommended once a week or whenever the water appears dull or cloudy or has a strong odor. Non-chlorine Spa Shock allows use of the vessel 15 minutes after shock treatment.

NOTE: A strong bromine or chlorine odor typically indicates the vessel needs to be shocked – not that there is too much bromine or chlorine in the water. A properly balanced vessel that is shocked regularly will not have an odor.

SANITIZE

SmartClean™ System

The SmartClean™ system works in conjunction with sanitizers to increase water quality and significantly decrease maintenance. The factory installed ozonator greatly reduces the amount of sanitizer required.

NOTE: Due to recommended temperature of the water in an ATV™ unit, Chlorine is more compatible with the ATV™ system than most bromine systems. Biguanides should not be used, damage to the vessel shell and other internal components can occur.

WATER CARE REGIMEN

SpaCare products are classified by easy to follow usage guidelines. The information below indicates whether the product should be used daily, weekly, monthly, when filling, or as needed – if special water conditions arise.

Please visit www.ATVswimspas.com to locate your local Dealer or products for the ATV swim spa.

DAILY

Sanitizer: Maintain 1-2 ppm of bromine or 3-5 ppm of Chlorine at all times.

WEEKLY

Spa Shock

Sanitizer combines with bacteria and neutralizes bacteria on contact. However, the used sanitizer/bacteria particle is still present in the vessel water. Used sanitizer in the water emits an odor and causes cloudy water. To oxidize, or rid the vessel of this used sanitizer, you must shock the vessel once a week.

NOTE: Additional shocking may be necessary if the vessel is under heavy use.

AS NEEDED PRODUCTS**pH Increaser****Alkalinity Increaser****pH & Alkalinity Decreaser**

These three products work to raise or lower the pH and alkalinity in the vessel. They are only needed if the test strip indicates the levels are not in the ideal ranges.

Water Clarifier

Microscopic particles can pass through the vessel filter and create cloudy water. The use of SpaCare Water Clarifier combines these microscopic particles into larger particles that can be trapped in the filter to clear cloudy water.

Spa Defoamer

If foam appears in your vessel, the action of the jets will keep it from dissipating. The use of SpaCare Defoamer instantly rids your ATV of foam. If foaming persists for more than 24 hours, this may indicate a high calcium level, be sure to check for calcium hardness.

Metal and Stain Remover

Metal and Stain Remover will remove metals such as iron and copper from vessel water.

WATER CARE TROUBLESHOOTING GUIDE

NOTE: If you request a service call and no problem is found with the vessel or the problem is not covered by warranty (i.e. chemical damage), you will be charged at the regular service rate.

P: Problem**S: Solution****Cloudy Water**

P: Inadequate filtration or dirty filter.

S: Ensure that the filter is securely installed. Clean or replace filter. Increase the length of clean up and/or filter cycles.

P: Water is not balanced.

S: Test water and adjust pH, alkalinity, and sanitizer as needed. Shock to oxidize and destroy organics in the water.

P: Unfiltered particles or chemically saturated.

S: Use Water Clarifier to combine particles.

P: High total dissolved solids.

S: Drain, clean, and refill the vessel.

Chemical Odor

P: Too many chloramines/bromamines in the water.

S: Treat water with Spa Shock, then adjust sanitizer level as necessary.

P: Dull looking water, difficult to manage. High total dissolved solids (TDS) may be the cause.

S: Drain, clean and refill with fresh water.

Musty Odor

P: Not enough sanitizer in water – bacteria or algae in water.

S: Add sanitizer as necessary and shock. Re-adjust sanitizer level if necessary.

Yellow Water

P: Low pH and/or low alkalinity.

S: Test and adjust pH with pH and Alkalinity Increase. Adjust alkalinity if necessary.

Foaming

- P: High concentration of body oils, lotions or soaps, as well as excessive organics.
- S: Use Defoamer and adjust pH and sanitizer as needed.
- P: Excessive foaming past 24 hours.
- S: Check and balance calcium levels, excessive foaming can be an imbalance of calcium.

Scum Line in Vessel

- P: Body oils and dirt.
- S: Use Glove Sponge to clean the vessel. Test and adjust the sanitizer and pH if necessary. Increase the clean up cycle.

No Sanitizer Reading

- P: Sanitizer level is too low.
- S: Shock and/or adjust bromine or chlorine until the sanitizer registers in the recommended range.
- P: Test strip remains “white” even after sanitizer has been added.
- S: Sanitizer level could be extremely high. It can bleach the reagents on the test strip and give a false reading. Remove vessel cover and activate jets and air control. Allow jets to run for 30 minutes. Test water to see if desired level has been reached.

High Sanitizer Reading

- P: Too much chlorine or bromine added or dispensed into the vessel.
- S: Remove vessel cover and activate jets and air control. Allow jets to run for 30 minutes. Test water to see if desired level has been reached.

Eye or Skin Irritation

- P: Contaminants or excessive amount of chloramines/bromamines in water.
- S: Treat water with Spa Shock. Adjust sanitizer level.
- P: pH is low.
- S: Adjust as needed.

Corrosion of Metal

- P: Low pH.
- S: Adjust pH with pH and Alkalinity Increase.
- S: Adjust pH with pH Increaser.

Green Water/Algae

- P: Low sanitizer level or high pH.
- S: Adjust pH, shock and/or adjust bromine or chlorine as necessary.

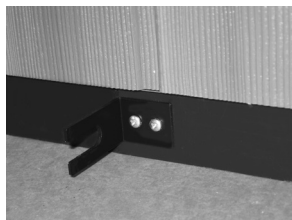
Erratic pH

- P: Alkalinity and/or calcium hardness are too low causing pH “bounce”.
- S: Test and adjust alkalinity and/or calcium hardness to bring them into the ideal range.

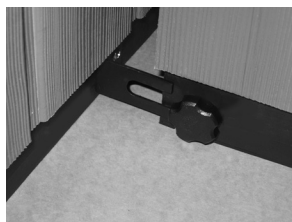
STEP INSTALLATION (OPTION)

The step and mounting brackets may be placed along a straight side of the spa, most often centered to the entry location.

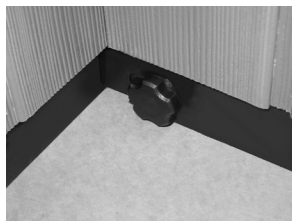
Find the center of the spa side where you want to mount the step. Measure 27.5" (699mm) center spread and mark. Measure 1" (25mm) up from base and mark (see diagram).



1

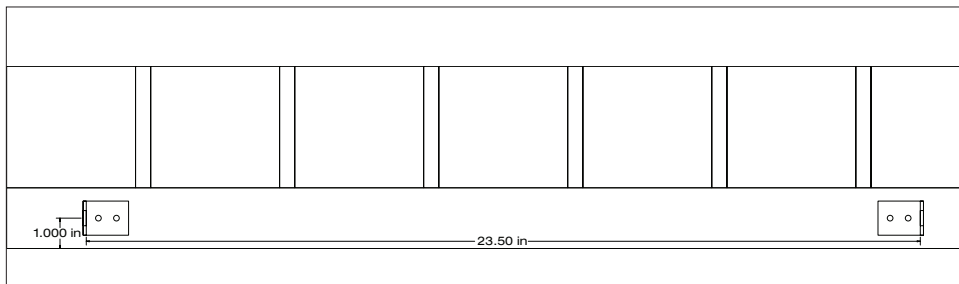


2



3

- With step mounting brackets facing outwards mark the two holes.
- Using the bracket as a guide, predrill two holes per bracket.
- Attach the left and right brackets to the spa exterior base (#1).
- The step hardware is factory-installed. Loosen the thumbscrew. Gently push step towards the spa until the brackets and hardware engage (#2).
- Tighten the thumbscrew to attach the step to the spa exterior (#3).



All steps can be inherently dangerous. Always use caution in stepping in and out of your spa.

VECTOR21 SWIM SPAS: V150P, V150W, V174S & V174K**WHAT THE MARQUIS CORP. LIMITED WARRANTY COVERS**

Marquis Corp. warrants that our products will be free from defects in materials and workmanship for the term set forth exclusively in this warranty. Accessories purchased from Marquis Corp. or a Marquis Corp. authorized dealer and added to the spa after manufacture of the spa are not covered under this warranty but may have other warranties. Refer to owner's manual for proper use, maintenance and installation of your spa. The Limited Warranty is made only to the original purchaser of the spa and is not transferable.

- [5] **STRUCTURE:** The fiber glass structure is warranted for five years not to leak. Fittings and attachments are not included.
- [7] **SURFACE:** The surface is warranted for seven years against blisters, cracks and delamination. Use of a non-Marquis® DuraCover® will void this coverage.
- [5] **PLUMBING:** Plumbing and fittings are warranted against water loss for five years. Warranty coverage does not include gaskets or seals.
- [3] **EQUIPMENT:** Electronic equipment is warranted against defects in materials and workmanship for three years. Equipment includes equipment packs, PC boards, pumps, control panels, heater and heat sensors. Cosmic audio system has its own warranty
- [1] **EXTERIOR:** The synthetic skirt exterior is warranted against cracking and peeling for one year.
- [1] **COMPONENTS:** The ozonator is warranted against defects in material and workmanship for one year.
- [1] **PARTS:** LED lights, remote controls, valves, spa cover, stereo components, jet inserts and overlays are warranted for one year. These parts do not qualify for labor coverage under this warranty. Fuses, non-LED lights, filter, filter lid, cushioned headrests and other items not specifically mentioned in this warranty are warranted to be free from defects in materials and workmanship at time of delivery. These parts do not qualify for labor coverage under this warranty.

TERM OF THE MARQUIS CORP. LIMITED WARRANTY

The term of your warranty begins on the date the product is sold to you and continues for the term described in this warranty for each component.

WHAT YOU SHOULD DO IF YOU EXPERIENCE A PROBLEM

Unless otherwise designated in writing by Marquis Corp., Marquis Corp. or its agent are the only parties authorized to perform warranty service on Marquis Corp. spas. Upon experiencing a problem, please contact your authorized dealer. You will be asked to provide the following information when requesting warranty service: your name, address and contact information; serial number; a description of your spa and a description of the problem. You will be required to provide proof of purchase of your spa prior to receiving warranty service.

WHAT MARQUIS CORP. WILL DO IN THE EVENT OF A PROBLEM

Marquis Corp. agrees to repair any plumbing or surface defects and to repair or furnish a replacement for any factory-installed component covered under this warranty which, upon test and examination by Marquis Corp., proves to have manufacturing defects. All materials for examination must be returned to Marquis Corp. freight prepaid.

Marquis Corp. will provide parts and labor where applicable (according to pre-determined schedule) at no charge to repair or replace components that fail due to manufacturing defects. Responding authorized dealer may charge additional service and travel fees.

In the event that Marquis Corp. or its agent determines that your problem can be addressed by providing a replacement part to you for installation in your spa, a replacement part will be provided to you at no charge when you return the defective part. All replacement parts assume the original warranty status of the spa into which they are installed, including time remaining on warranty, and have no separate or independent warranty of any kind.

To facilitate repairs, Marquis Corp. or its agent may require access to spa equipment. It is your responsibility to provide unencumbered access.

WHAT THE MARQUIS CORP. LIMITED WARRANTY DOES NOT COVER

No warranty will apply to any spa that has been (i) modified, altered or adapted without Marquis Corp.'s written consent; (ii) maltreated or used in a manner other than in accordance with the spa owner's manual; (iii) repaired by any third party not authorized by Marquis Corp.; (iv) improperly installed by any party; (v) used with equipment not covered by this warranty, to the extent that problems are attributable to such use; (vi) relocated to the extent that problems are attributable to the relocation; (vii) located on any support surface other than specified in the spa printed instructions; and (viii) damage caused by pH level outside the range of 7.4 to 7.6 and other chemical abuse. Other exclusions include spa used in any commercial application including but not limited to rental properties. Refer to instructions in the owner's manual for proper use, maintenance and installation of your spa.

Other items not included in this warranty are freight expenses; labor and material cost associated with removal and/or replacement of the spa; damage to or fading of the spa surface and staining of the spa surface or equipment caused by impact, scratching, abrasive or corrosive cleaners; damage due to extreme water temperatures outside the range of 32°F to 120°F (0°C to 49°C) even if the damage was the result of a covered failure; or damage to the spa surface or equipment caused by acts of nature, including wind and power surges. Damage to the spa surface and equipment due to the use of trichlor chlorine, or other harsh chemicals not recommended by Marquis is not covered under warranty. Damage to the spa surface and fittings caused by leaving the spa uncovered and empty of water with direct exposure to sunlight may cause solar heat distress and also invalidates this warranty.

Other costs not associated with the direct repair of the spa, such as phone charges and missed work are not included in this warranty. In the event that the Marquis Corp. serial number tag on the spa has been removed or tampered with, the warranty will be void. Customer may not dismantle spas, and any attempt to dismantle systems, other than described herein, constitutes a modification or alteration of the spa which voids the applicable warranty.

LIMITATIONS

Your sole and exclusive remedy and Marquis Corp.'s entire liability in connection with manufacture and sales of its spa products is repair or replacement (at Marquis' option) of a defective part, as expressed in the limited warranty. Any other express or implied representation or warranty, including the implied warranties of merchantability and of fitness for a particular purpose as well as non-infringement, is excluded to the maximum extent permitted by law.

Except as may be required by applicable law, Marquis Corp. shall not be liable for injury, loss, or damage to person or property, however arising, in connection with manufacture or sale of its spa products. This includes indirect, punitive, special, incidental, or consequential damages (including but not limited to loss of use) whether the claim for such injury, loss, or damage is based on breach of contract, breach of warranty, or tort, even if Marquis Corp. has previously been advised of the possibility of such damages.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

STEREO SYSTEM ONE YEAR LIMITED WARRANTY

Marquis Corp. warrants to the original retail purchaser, the components of the stereo system will be free from defects in material and workmanship for a period of one year from date of purchase. One year coverage includes parts and labor. Optional remote not included in this warranty: other warranties may apply from the original manufacturer of the optional remote. The stereo system Limited Warranty is made only to the original purchaser of the spa and is not transferable.

In no event shall any obligation of Marquis Corp. extend beyond the original period of any applicable warranty determined according to the effective warranty date of the original purchaser.

PERFORMANCE OF WARRANTY

Marquis Corp. agrees to repair or furnish a replacement for any defects in stereo system material or workmanship which upon test and examination by Marquis Corp. proves defective. Stereo components including radio, speakers, subwoofer, mechanical speaker lift device, stereo access door, power supply are warranted against defects in material and workmanship for one year. Labor to replace stereo components is covered for 90 days. Water intrusion of any kind is not covered. All materials for examination must be returned to Marquis Corp. freight prepaid.

Your authorized Marquis® Dealer reserves the right to assess travel charges for service calls.

INVALIDATION OF WARRANTY

This warranty is void if the stereo system has been subjected to alteration, misuse or abuse or if any repairs on the stereo system are performed or attempted by anyone other than an authorized Marquis Corp. service center. Alteration is defined as any component change, electrical conversion or the addition of any alternative sound system components which contribute to component failure.

Misuse and abuse shall include without limitation any external power source attached to the stereo system other than approved source, or use in a particular manner that the stereo system was not designed, or operation of the stereo system other than in accordance with Marquis Corp. printed instruction (located in the Owner's Manual) that leads to any component failure. Under no circumstances shall Marquis Corp. or any of its representatives be held liable for injury to any person or damage to any property, however arising.

Other costs not associated to the direct repair of the spa, such as phone charges, missed work, and damage caused to the stereo system beyond Marquis® control, are not included in this warranty. Items beyond Marquis® control include but are not limited to damage resulting from: improper connections, accidents, failure to follow procedures defined in the Owner's Manual, damaged from excessive wattage to the system, lightning, extreme temperatures or any other natural occurrences.

IMPORTANT: Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, therefore the limitation or exclusions may not apply to you.

DISCLAIMERS

There are no additional warranties, express or implied, which extend beyond the terms of this limited warranty. Marquis Corp. makes no warranty of merchantability of the goods or the fitness of the goods for a particular purpose.

No other person or entity has been authorized to make any warranty, representation or promise of performance not included in this express written warranty, and Marquis Corp. shall not be bound by any such additional warranty, representation or promise.

This warranty gives you specific legal rights. You may also have other rights that may vary from state to state.



MARQUIS CORP
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INDEPENDENCE, OR 97351

WWW.MARQUISSPAS.COM



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