

NorthWind Hot Tubs™

crafted by *Coast Spas*



———— 2018 ————
OWNER'S MANUAL

Coast Spas Manufacturing Inc.
6315 202 Street, Langley BC Canada
604 514 8111
info@coastspas.com
www.coastspas.com

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CONGRATULATIONS!

YOU'RE ALMOST READY TO ENJOY YOUR NEW SPA!

! PLEASE READ YOUR ENTIRE OWNER'S MANUAL BEFORE SPA OPERATION !

Basic Information

Water Care

IMPORTANT: Caring for your water by ensuring proper chemical usage is the single most important thing you can do to keep your hot tub in good condition.

WARNING: Improper chemical usage and maintenance will quickly lead to severe issues with your spa and can effect the spas equipment, jets, pumps and all other components in contact with the spa water. **All hot tubs and swim spas are susceptible to damage from unbalanced spa water.**

Always maintain your spa's water chemistry within the following parameters:

| | |
|------------------|---------------|
| pH | 7.2 - 7.8 |
| Chlorine | 1.0 - 3.0 ppm |
| Bromine | 2.0 - 5.0 ppm |
| Total Alkalinity | 100 - 120 ppm |
| Calcium Hardness | 150 - 250 ppm |

Electrical

All self contained spas use 120VAC or 240VAC electrical spa packs.

120VAC: Requires an isolated 15 Amp circuit breaker, an isolated circuit with no other appliances or lights on the circuit at any time. Extension cords are not to be used in conjunction with the operations of the spa. Low voltage damage could result and this is not covered by warranty. **IMPORTANT: Hot Tubs with 110V means that the jets and heater will not work at the same time.**

NOTE: All components must be 120V. No 240V components allowable.

240VAC: Depending on the model of spa, it will require either a 40, 50 or 60 Amp dedicated circuit breaker with the proper wire size (gauge) based on the length of the run.

The electrical circuit must be installed by a certified electrician and approved by a local building or electrical inspector.

Surface

Your new portable spa must be placed on a firm, flat and level surface, so the spa weight is supported uniformly. We recommend no less than a 3" (93 mm) thick concrete slab. Wood decking or balconies must be constructed to support 150 pounds per square foot (730 kg/m²). Refer to local and current building codes in your area. Consult an engineer for live loads in your area. Should your new spa need to go through a gate or space-restrictive area, ensure you've communicated those limitations with your dealer to avoid delivery complications.

NOTE: Damage caused by alternate decking methods may void the spa warranty. Contact your dealer if you have any questions regarding spa location or placement.

Transport

Your new spa has left the factory cleaned and polished and ready to begin operation after passing our many quality and operational tests. However, depending on your location in the world, your spa may have spend days or even weeks in transit before arriving at your home. Please ensure that before filling or operating your hot tub that you check all electrical and plumbing connections are securely connected in the equipment area as they might have loosened during shipping. If any dirt has accumulated, you will want to remove with a clean cloth or sponge using warm water.

PREP FOR FILLING

! PLEASE READ ALL INSTRUCTIONS BELOW BEFORE FILLING THE SPA



Using a cloth and water, wipe away any dirt/dust collected from transport. Ensure all jets are open by turning the face counter clockwise.



Ensure that any gate/knife valves are fully open.



Remove floating weir and basket from filter assembly.



Remove filter by turning counter-clockwise. Remove plastic filter transport bag.

FILLING YOUR SPA

! DO NOT USE HOT WATER TO FILL YOUR SPA

! DO NOT USE WATER FROM A WATER SOFTENER



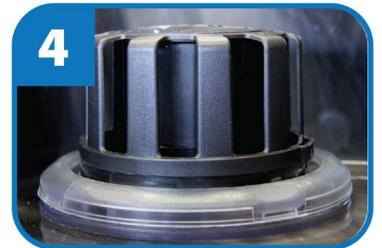
Place fill hose into open filter canister and fill spa until water is 5" (12.5cm) from the top "lip" of the hot tub.



When filled all massage jets should be under water (approx. 5 inches from top of spa). Remove fill hose from filter canister.



Re-install filter by screwing into canister clockwise.

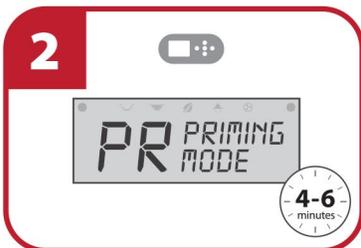


Re-install floating weir and basket assembly.

POWERING UP YOUR SPA



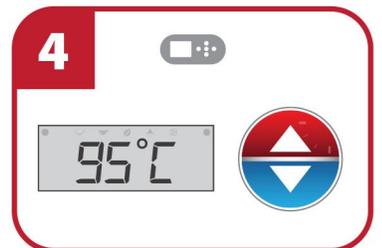
Turn power on at the main breaker.



PR - Priming Mode: Your spa will now run a diagnostic test. Do not press any buttons while test is running (4 - 6 minutes).



Once test is complete, you will see the temperature display on your hot tub control panel.



Set your hot tub temperature. Get ready to enjoy!

PREP FOR FILLING

! PLEASE READ ALL INSTRUCTIONS BELOW BEFORE FILLING THE SPA



Using a cloth and water, wipe away any dirt/dust collected from transport. Ensure all jets are open by turning the face counter clockwise.



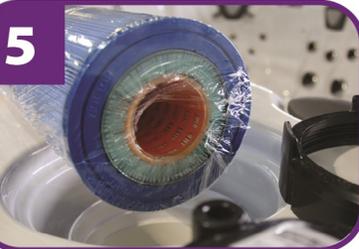
Ensure all plumbing and electrical connections are securely connected and tightened as they can come loose during transit.



Ensure that any gate/knife valves are fully open.



Remove the filter lock ring and lid.



Remove filter and take it out of the plastic transport bag. Leave filter canister open when filling.



Remove skimmer cavity grate cover by sliding it upwards.



Loosen (do not remove) the air bleeder valve located in the skimmer cavity.

FILLING YOUR SPA

! DO NOT USE HOT WATER TO FILL YOUR SPA

! DO NOT USE WATER FROM A WATER SOFTENER



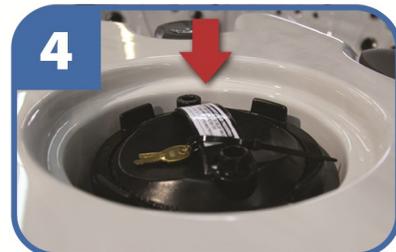
Place fill hose into open filter canister and fill hot tub until water is 2/3 of the way up the skimmer opening.



When filled all massage jets (excluding neck jets) should be under water.



Remove fill hose from filter canister.

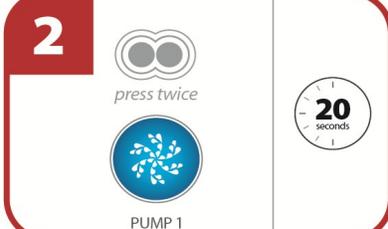


Put filter back into filter canister. Then put back on the filter canister lid and tighten locking ring.

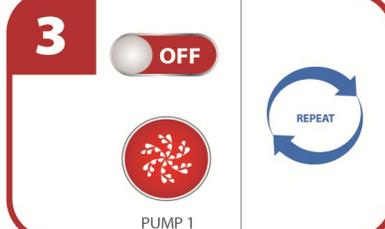
POWERING UP YOUR SPA



Turn power on at the main breaker.



Turn pump 1 on high speed for 20 seconds by pressing the pump icon twice.



Turn pump 1 off by pressing the pump one icon once. Repeat steps 2 and 3 until air is removed from pump 1 and water is coming from jets.



Tighten the air bleeder valve located in the skimmer cavity. Set your hot tub temperature. Get ready to enjoy!

IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY

DANGER: Risk of Injury. The suction fittings in this hot tub are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible. Never operate the hot tub if the suction fittings are broken or missing. Never replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.

DANGER: Risk of Accidental Drowning. Do not allow children to be in or around the spa without adult supervision. Keep the spa cover on and locked when not in use. See instructions enclosed with the cover for locking procedures.

DANGER: Risk of Electrical Shock. The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with section 422-20 of the National Electrical Code, ANSI/NFPA 70. The disconnect must be readily accessible and visible to the hot tub occupant but installed at least 5 feet (1.5 m) from the hot tub water.

READ, FOLLOW AND SAVE THESE INSTRUCTIONS

- a) A green colored terminal or a terminal marked G, Gr, Ground, Grounding or the symbol * is located inside the supply terminal box or compartment. To reduce the risk of electric shock, this terminal must be connected to the grounding means provided in the electric supply service panel with a continuous copper wire equivalent in size to the circuit conductors that supply this equipment.
- b) At least two lugs marked "Bonding Lugs" are provided on the external surface or on the inside of the supply terminal box compartment. To reduce the risk of electric shock, connect the local common bonding grid in the area of the hot tub to these terminals with an insulated or bare copper conductor not smaller than No. 6 AWG.
- c) All field-installed metal components such as rails, ladders, drains or other similar hardware within 5 feet (1.5 m) of the hot tub shall be bonded to the equipment grounding buss with copper conductors not smaller than No. 6 AWG.

WARNING: To Reduce the Risk of Injury: The water in a hot tub should never exceed 104 °F (40 °C). Water temperatures between 100 °F (38 °C) and 104 °F (40 °C) are considered safe for a healthy adult. Lower water temperatures are recommended for young children and when hot tub use exceeds 10 minutes. 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 hot tub water temperatures to 100 °F (38 °C). If pregnant, please consult your physician before using a hot tub. Before entering the hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature regulating devices may vary as much as +/- 5 °F (2 °C). Persons suffering from obesity or a medical history of heart disease, low or high blood pressure, circulatory system problems or diabetes should consult a physician before using a hot tub.

CAUTION: Risk of Hyperthermia: Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the

normal body temperature of 98.6 °F (37 °C). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body. Prolonged immersion in hot water may induce hyperthermia. A description of the causes, symptoms, and effects of hyperthermia are as follows:

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

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

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

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

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

WARNING: Do not use drugs or alcohol before or during the use of a hot tub to avoid unconsciousness and possible drowning. The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in hot tubs.

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

WARNING: Water temperature in excess of 38 °C (100 °F) may be injurious to your health. Before entering the hot tub, measure the water temperature with an accurate thermometer.

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

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

WARNING: Do not permit electric appliances (such as lights, telephone, radio, television, etc.) within 5 feet (1.5m) of this hot tub unless such appliances are built-in by the manufacturer.

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

CAUTION: Observe a reasonable time limit when using the hot tub. Long exposures at higher temperatures can cause high body temperature. Symptoms may include dizziness, nausea, fainting, drowsiness, and reduced awareness. These effects could possibly result in drowning.

CAUTION: Enter and exit the hot tub slowly. Wet surfaces can be very slippery.

CAUTION: Proper chemical maintenance of hot tub water is necessary to maintain safe water and prevent possible damage to hot tub components. Maintain water chemistry in accordance with manufacturer's instructions.

CAUTION: Use the straps and clip tie downs to secure the cover when not in use. This will help to discourage unsupervised children from entering the hot tub and keep the hot tub cover secure in high-wind conditions. There is no representation that the cover, clip tie-downs, or actual locks will prevent access to the hot tub.

CAUTION: For exercise, the water should not exceed 90 °F (32 °C).

CAUTION: When using this electrical equipment, basic safety precautions should always be followed.

PREPARATION AND SET-UP FOR YOUR NEW SPA LOCATION FOR YOUR NEW SPA:

- You want to keep in mind how you intend to use the spa and plan the location accordingly.
- How close is the spa from the exit or entrance to your house? (consider the cold weather)
- Is the path to your spa clean of debris, sand, grass? (so as not to track into the spa)
- Is there protection from wind, inclement weather?
- Can neighbors or passersby see the spa?

NOTE: Allow for service access: Many spa owners enjoy placing their spa in a decorative enclosure or a deck. Keep in mind that you need to have access to the equipment for maintenance and the spa should be able to be moved or lifted without destroying the special enclosure or its surroundings. You should discuss this with your dealer when designing the location. Extension cords are not to be used in conjunction with the operations of the spa. Low voltage damage could result and this is not covered by warranty. **NOTE:** All components must be 120V; No 240V components allowable.

240VAC: Depending on the model of spa, it will require either a 40 Amp or 50 Amp dedicated circuit breaker, GFCI, with the proper wire size based on the length of the run. The electrical circuit must be installed by a certified electrician and approved by a local building or electrical inspector.

ELECTRICAL REQUIREMENTS

All self contained spas use 120VAC or 240VAC electrical spa packs.. These instructions describe the only acceptable electrical wiring procedures. Spas wired in any other way will void your warranty and may result in serious injury. All installations should be completed by a certified electrician. Failure to comply with state and local codes may result in fire or personal injury and will be the sole responsibility of the spa owner.

120VAC: This requires an isolated 15 Amp circuit breaker. This needs to be an isolated circuit with no other appliances or lights on this circuit at any time. Extension cords are not to be used in conjunction with the operations of the spa. Low voltage damage could result and this is not covered by warranty. **NOTE:** All components must be 120V; No 240V components allowable.

240VAC: Depending on the model of spa, it will require either a 40 Amp or 50 Amp Amp dedicated circuit breaker, GFCI, with the proper wire size based on the length of the run. The electrical circuit must be installed by a certified electrician and approved by a local building or electrical inspector.

SURFACE AND PAD REQUIREMENTS

Your new portable spa must be placed on a firm, flat and level surface, so the spa weight is supported uniformly. We recommend no less than a 3" (93 mm) thick concrete slab. Wood decking or balconies must be constructed to support 150 pounds per square foot (730 kg/m²). Refer to local and current building codes in your area. Consult an engineer for live loads in your area. Should your new spa need to go through a gate, the opening should be a minimum of 48 inches and up to 8.5' overhead clearance depending on the size of the unit.

NOTE: Damage caused by alternate decking methods may void the spa warranty. Contact your local dealer if you have any questions regarding spa location or placement.

DRAINING AND WINTERIZING

DRAINING YOUR SPA

After a period of 3-4 months, detergent residues from bathing suits and soap film will build up in your spa water. Once this happens, your spa water will appear cloudy and should probably be replaced.

- Turn power OFF at the breaker.
- Locate the drain valve (usually in the equipment area).
- Remove the safety cap and attach garden hose.
- Drain water to a convenient area. (Spa water may harm grass or plants if sanitizer levels are high.)
- When water begins to flow out of the hose, open the air relief valve located on filter lid (Hydro-Cyclonic Filtration) or Air Bleeder Valve (Skim Filtration)
- Your spa will drain except for a small portion left in the foot well. This can be removed with a sponge and pail.
- Once empty, clean as required.
- To finish, remove garden hose and attach safety cap.



WINTERIZING YOUR SPA

In many areas of the world the temperature may drop below 32°F (0°C). We recommend the spa is always filled with water and running at normal spa temperatures. By doing this you will minimize the risk of freezing within your spa. If it is necessary to leave your spa unattended for long periods of time during cold weather conditions, you should drain your spa to avoid accidental freezing caused by power outages. Your local dealer can perform the following winterizing procedures, if you are not completely comfortable with them.

- Ensure that you have fully drained the spa (Refer to the DRAINING YOUR SPA section)
- After draining, your spa may still have water remaining in the equipment and plumbing fittings. Disconnect the hand-tightened union fittings going to and from the jet pumps. Be careful not to lose the o-rings between the unions and pump housing.
- Leave drain valve in the open position and safety cap off .
- To completely drain the plumbing lines, a wet/dry shop vacuum can be used to draw out any remaining water. Place the vacuum hose over the jet fittings in the

spa as well as the plumbing lines in the equipment area. You should also disconnect the plug on the crystal clear inspection tube (if installed)

- Remove the filter cartridge and store in a warm, dry area.
- Clean the spa shell and place spa cover on spa. Be sure to lock the cover in place in case of high winds or rain.

WARNING: The instructions above should be followed accordingly when winterizing your spa however they are guidelines and potential freeze damage may still occur. All freeze damage is the sole responsibility of the spa owner and will not be covered by the warranty should it occur.

EMERGENCY SITUATIONS: To eliminate freezing in the event of equipment failure, use a 100-watt light bulb or small heater via extension cord and place it in the equipment area, keeping it away from plumbing lines. This will help for a short period of time until proper service can be rendered.

FILTER MAINTENANCE

The spa filter is one of the most important maintenance items of a hot tub. The filter is there to remove debris from the water and needs to be cleaned on a regular basis. Failure to do so may result in poor performance, poor water clarity and could prevent the spa from heating. Filtration starts as soon as flow is steady through the filter. As the filter cartridge removes the debris from the spa water, the accumulated debris causes flow resistance.

- This is a good time to check the skimmer basket. Bring skimmer door (weir) forward and unscrew basket. Clean out debris and reinstall.

FILTER CLEANING

Always turn off the power to the Spa before cleaning the filter cartridge. Your Spa is equipped with one top access filter cartridges. We recommend that you clean the filter every month as preventative maintenance. Remember to power down the spa before removing the filter. To clean the skimmer filter cartridge, lift out center float of the skimmer assembly. Turn the top of the center float counterclockwise to access basket area. Rinse away any large debris.

3. Clean the cartridge with a high-pressure garden hose. Every other cleaning, soak the cartridges in cartridge cleaner, rinse it thoroughly, and reinstall. After cleaning, run the pump for a few minutes at high speed then return to the heating mode.

1. Remove the filter cartridge outer lock ring by turning counterclockwise and then lift up to remove it. Lift the center float up and out to expose the filter cartridge.



2. Remove the filter cartridge by turning the cartridge counterclockwise 2-3 rotations. Lift cartridge out of the canister.



Look for these specialized cleaning attachments at your local dealership.

WATER QUALITY MAINTENANCE

Maintaining the quality of the water within the specified limits will serve to enhance your enjoyment and prolong the life of the hot tub's equipment. It is a fairly simple task, but it requires regular attention because the water chemistry involved is a balance of several factors. There is no simple formula, and there is no avoiding it. An indifferent approach to water maintenance will result in poor and potentially harmful conditions for soaking and even damage to your hot tub investment. The most important thing to keep in mind is that *preventing* poor water chemistry is much easier than *correcting* poor water chemistry. For specific guidance on maintaining water quality, consult your Authorized Dealer who can recommend appropriate chemical products for sanitizing and maintaining your hot tub.

MAINTAIN HEALTHY SPA WATER

Important! When maintaining your hot tub's water chemistry, ensure that your cover is removed during any aggressive treatments to allow for dissipation into the air. Take care to remove the cover slowly and let chemicals deplete if you are uncertain if your water is properly balanced.

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

pH: pH is a measure of relative acidity or alkalinity of water and is measured on a scale of 0 to 14. The midpoint of 7 is said to be neutral, above which is alkaline and below which is acidic. In hot tub water, it is very important to maintain a slightly alkaline condition of 7.2 to 7.8. Problems become proportionately severe the further outside of this range the water gets. A low pH will be corrosive to metals in the hot tub equipment. A high pH will cause minerals to deposit on the interior surface (scaling). In addition, the ability of the sanitation agents to keep the hot tub clean is severely affected as the pH moves beyond the ideal range. That is why almost all hot tub water test kits contain a measure for pH as well as sanitizer.

Sanitizer (Chlorine or Bromine): To destroy bacteria and organic compounds in the hot tub water by breaking them down into non-harmful levels which get filtered out. A sanitizer must be used regularly, either chlorine or bromine. Sanitizing your spa water is the most important spa maintenance you can do for yourself.

Total Alkalinity: This refers to the ability of the hot tub water to resist changes in pH. Controlling alkalinity can help keep your pH in the appropriate range thereby lessening the need for pH balancing. If the TA is too low the pH level will fluctuate rapidly from high to low. If the TA is too high the pH will tend to be too high and will be very difficult to bring back down.

Calcium Hardness: This is a measurement of dissolved calcium in the water. Calcium will help control the corrosive nature of the spa's water.

WARNING: Never store chemicals inside the equipment area of your spa.

IMPORTANT: Do not use Hydrogen Peroxide based sanitizers in your spa. When using Chlorine or Bromine tablets you must use a floating dispenser. These chemicals can have an extremely corrosive effect on certain materials in the spa. Damage caused by use of these chemicals, or improper use of any chemicals, is not covered under the spa's warranty.

OTHER ADDITIVES: Many other additives are available for your spa. Some are necessary to compensate for out-of-balance water, some aid in cosmetic water treatment and others simply alter the feel or smell of the water. Your Authorized Dealer can advise you on the use of these additives.

WATER CLARITY TROUBLESHOOTING

| PROBLEM | PROBABLE CAUSE | POTENTIAL SOLUTIONS |
|-----------------------------|--|--|
| Water Odor | <ul style="list-style-type: none"> • Improper sanitization • Excessive organics in water • pH is too low | <ul style="list-style-type: none"> > Add sanitizer > Shock spa with sanitizer > Adjust pH |
| Chlorine Odor | <ul style="list-style-type: none"> • Chloramines are too high • pH is too low | <ul style="list-style-type: none"> > Shock spa with sanitizer > Adjust pH |
| Musty Odor | <ul style="list-style-type: none"> • Bacteria or Algae growth | <ul style="list-style-type: none"> > Shock spa with sanitizer > Drain and refill spa water |
| Scale | <ul style="list-style-type: none"> • Total alkalinity is too high • pH is too high • High calcium content in water | <ul style="list-style-type: none"> > Adjust total alkalinity > Adjust pH > Use stain and scale product |
| Stains | <ul style="list-style-type: none"> • Total alkalinity is too low • pH is too low • High metal content in water | <ul style="list-style-type: none"> > Adjust alkalinity > Adjust pH > Use stain and scale product |
| Cloudy Water | <ul style="list-style-type: none"> • Poor filtration • pH is too high • Hardness is too high • Total alkalinity is too high • Suspended particles | <ul style="list-style-type: none"> > Clean filter cartridge > Adjust pH > Adjust hardness > Adjust total alkalinity > Drain and refill spa water |
| Algae Growth | <ul style="list-style-type: none"> • pH is too high • Sanitizer is too low | <ul style="list-style-type: none"> > Adjust pH > Shock spa with sanitizer > Adjust sanitizer level |
| Eye Irritation | <ul style="list-style-type: none"> • pH is too low • Sanitizer is too low | <ul style="list-style-type: none"> > Adjust pH > Shock spa with sanitizer > Adjust sanitizer level |
| Skin Rash/Irritation | <ul style="list-style-type: none"> • Free chlorine level too high • Unsanitary water | <ul style="list-style-type: none"> > Adjust chlorine level > Shock spa with sanitizer > Adjust sanitizer level |

PRODUCT & CARE GUIDE

Your Authorized Dealer carries a wide variety of care and maintenance products. For more information please contact your Dealer.

REQUIRED FILTER MAINTENANCE

Your new hot tub is equipped with a filter cartridge. To ensure maximum water quality at all times, you should replace the filter cartridge every six months, or earlier as necessary. The filter cartridge is designed to be thrown away! Attempts to re-use the filter cartridge may result in the re-release of unwanted particles back into the hot tub.

Keeping your spa water clean and refreshing is extremely important for your enjoyment of your hot tub. Our hot tubs come with only the best filters available in order to ensure your satisfaction.

REQUIRED WATER REPLACEMENT

You should replace the hot tub's water every 3-6 months. The frequency will depend on a number of variables including frequency of use, number of bathers and attention paid to the water quality maintenance. You will know it is time for a change when you can no longer get the normal feel or sparkle to the water, even though the key water balance measurements are all within the recommended ranges.

HEADREST / PILLOW CARE

The pillows can be removed for easy cleaning and maintenance. All pillows have plugs within the pillow itself. To remove the pillow, grab the bottom edge firmly and pull outward. This will allow the pillows to pop-out from the receptacle in the spa shell. To reinstall the pillow you will align the pillow plug with the receptacle. Press/hit the front side of the pillow firmly, which will insert the plug back into the receptacle.

- **Proper water chemistry must be maintained. Your hot tub pillows are easily and quickly damaged when exposed to unbalanced spa water.** If you suspect that your chemicals may be unbalanced, remove your pillows immediately until the water has been restored to suggested conditions.
- Do not sit on the pillows
- Do not pull on the pillows
- Pillows should be cleaned using a soft cloth and mild soap, then wiped with a conditioner. We recommend that pillows be washed each time you drain your spa.

This Limited Warranty is void if failure is caused by accident, acts of nature, acts of God, or other causes beyond the control of CSMI. Neglect, misuse and abuse include any installation, operation, or maintenance of the spa other than in accordance with the instructions contained in the owner's manual provided with the spa, including, but not limited to damage caused by operation outside the range of 34 degrees Fahrenheit and 116 degrees Fahrenheit or 1 degree Celsius and 47 degrees Celsius .

Please be advised that the Spa Warranty will become void if Coast Spas or any of its selling or servicing agents determines that the spa has been exposed to Hydrogen Peroxide, TriChlor or any substance using it as an ingredient proven to be dangerous to the Spa. Any condition arising from

the use of Hydrogen Peroxide or TriChlor on the Spa is not a warrantable defect.

HOT TUB INTERIOR

Your hot tub has a fiberglass reinforced acrylic shell. Generally dirt and stains will not adhere to the surface. To properly clean the surface, we recommend wiping it with a soft damp cloth (or sponge) using household soap or liquid detergent and rinsing thoroughly with fresh water. Stubborn dirt or stains may be removed by using Spic & Span adequately dissolved in water. Contact your dealer and inquire about maintenance packages.

DO NOT use any cleaning products containing abrasives or solvents, since these could damage the surface. Harsh chemicals should never be used on acrylic surfaces. Damage to the shell due to the use of harsh chemicals is not covered under the warranty.

DO NOT leave your hot tub drained and in direct sunlight for extended periods of time. Extreme heat could cause damage to the acrylic surface and may induce an effect known as "crazing".

STAINLESS STEEL CONTROLS AND COMPONENTS ABOVE THE WATER LINE

To preserve the stainless steel finish of the controls and components above the water line, we recommend they be wiped with a dry soft cloth after each use of your hot tub. In addition, off-gas your tub by removing the cover for approximately 30 minutes multiple times per week (if not in use) and after every shock treatment.

CABINET CARE

Never spray cabinets with a high-pressure garden hose or pressure washer for any reason. This action may induce an electrical short in the hot tub's electrical equipment.

CEDAR CABINET

Our cedar cabinets are made from top quality Western Cedar and manufactured and stained at our factory. With proper care and maintenance, your cedar cabinet should maintain its beauty for many years. Manufacturer recommends touch-up or re-staining of the cabinet every three to four years depending on your environment. Contact your Dealer for re-staining procedures.

VINYL CABINET

Vinyl cabinets are made of a rigid polymer that combines the durability of plastic with the beauty of real wood. This cabinet is manufactured so that it won't crack, peel, blister or delaminate even after prolonged exposure to the elements. We recommend wiping the cabinet with a soft damp cloth (or sponge) using household soap or liquid detergent and rinsing with fresh water thoroughly. **DO NOT** use abrasive cleansers or material as this may damage the surface.

COVER CARE

A well cared for spa cover is a thing of beauty in its own right. Be sure to clean and condition your cover at least once a month – more often if needed. Your cover needs to be cleaned and conditioned because vinyl can be dry and become brittle, spoiling your spa's appearance. Dry, brittle vinyl can also tear at the seams and stress points. Quality materials, internal sewn reinforcing and careful workmanship can only go so far against the ravages of Mother Nature. See the specific Warranty card enclosed with your cover for further details.

- When you shock your spa you need to remove the cover for a minimum of 30 minutes to ensure that the chemical gas off can escape from the spa.
- You are required to keep the spa covered at all time when not in use to protect the shell from harmful UV rays.
- A covered spa will use less electricity when maintaining the desired water temperature
- See the manual that comes with the cover for proper mounting of the cover locks
- The cover should remain locked at all times to prevent unauthorized entry into the spa and potential drowning.
- Do not Sit, Stand or Lie on your cover. Nor should you place any heavy object on top of the cover as this may damage the structure.

VERY IMPORTANT: We recommend a vinyl conditioner for your spa cover. Your local dealer carries a wide variety of care and maintenance products. Choose a pleasant day each month to remove your cover from the spa and lay it on a flat surface accessible by garden hose. Douse the cover with a healthy amount of water from the hose or a bucket to rinse away loose dirt or debris. Using a soft bristle brush and a mild solution of dishwashing liquid (about one teaspoon of detergent to two gallons of water), and with a gentle circular motion, scrub the cover clean. Be careful not to let any areas of the cover dry before they're thoroughly rinsed. Now apply the vinyl conditioner as directed on the container. Massage the conditioner into the cover in a gentle but firm manner. Before replacing the cover on your spa, wipe and rinse any dirt from the bottom of the cover. When you are ready, put the cover on the spa.

NOTE: To remove tree sap, use lighter fluid (not charcoal lighter but the fluid used in cigarette lighters). Use sparingly, then immediately apply conditioner to that area.

All waterfalls and laminar flow water features should be turned off when the spa is not in use to avoid heat and water loss



GLOSSARY OF TERMS

AIR CONTROL VALVE: Mounted generally on the lip of the spa, it induces warm air from the equipment enclosure into the jet stream through venturi action.

WATER DIVERTER VALVE: The large diverter is used to divert water to various seats in the spa.

ON/OFF DIVERTER VALVE: The smaller diverter is used to control water flow and to turn on/off the neck jets and/or waterfalls.

FILTER AIR RELIEF VALVE: Located on top of dome filter lid. Used to release air from the filter.

SKIMMER BLEEDER VALVE: Located in the skimmer area, needs to be loosened while filling the spa. This will help eliminate air from being trapped in the spa equipment.

OZONATOR: Available as an option. The ozonator produces natural ozone through the Corona Discharge process. Continuous use of an ozonator can dramatically reduce sanitizer consumption.

CONTROL BOX (Pack): Basically the "heart" of the spa. Power is distributed to any/all functions of the spa: pumps, ozonator, LED lighting, heater element, etc.

CONTROL PANEL: Mounted on the top lip of the spa and controls the functions of the spa.

DRAIN VALVE: Used in draining of the spa. Normally located in the equipment area.

EQUIPMENT ENCLOSURE: An enclosure that houses the control box, pump(s) and other electrical components.

FILTER: The filter cleans the spa by passing water through a filter cartridge where debris and impurities are removed. Top load filter means the filter cartridge is accessible through the top of the spa. Front access skimmer means cartridge is accessed through door of skimmer.

FLOOR DRAIN: The floor drain is covered by a grate-type cover and is utilized when draining the spa. It also acts as the return for the ozonator. You will see bubbles emitted from this drain, which is the result of water mixing with the ozone output.

KNIFE VALVES: A white "T"-handled valve, same functions as Gate valve (see above), except to open them you pull up on handle.

HEATER: The electronically controlled heater raises the temperature of the spa to the desired setting.

LEDs: LEDs and their special lenses can be used to achieve the desired mood lighting in the spa and spa jets.

SKIMMER: This is the rectangular outlet at the water level. The skimmer removes surface debris to the filter. The water level in the spa should be kept $\frac{1}{2}$ to $\frac{3}{4}$ up on the skimmer for optimum operation.

SUCTION FITTING: During operation of the equipment, the suction works in conjunction with the skimmer to draw water from the bottom of the spa through the filter, keeping the spa sparkling clean.

NECK JET: Direction-controllable jet for soothing neck massage.

ADJUSTABLE CLUSTER JET: Our adjustable, high-intensity hydrotherapy jet.

DIRECTIONAL JET: Provides a straight flow for a therapeutic massage

ROTATIONAL JET: Provides a Uni-directional circular therapeutic massage.

MESSAGE JET: Delivers massage in staccato bursts over a narrow, focused area.

VOLCANO/WHIRLPOOL JET: high-output jet designed for foot and leg massage.

LAMINAR FLOW WATER FEATURE: A thin stream of water that arcs from the spa lip.

BASIC INSTALLATION AND CONFIGURATION GUIDELINES

Warning! Qualified Technician Required for Service and Installation

Use minimum 6AWG copper conductors only. Torque field connections between 21 and 23 in lbs. Readily accessible disconnecting means to be provided at time of installation. Permanently connected power supply. Connect only to a circuit protected by a Class A Ground Fault Circuit Interrupter (GFCI) or Residual Current Device (RCD) mounted at least 5' (1.52M) from the inside walls of the spa/hot tub and in line of sight from the equipment compartment.

CSA ENCLOSURE: TYPE 2

Refer to Wiring Diagram inside the cover of the control enclosure. Refer to Installation and Safety Instructions provided by the spa manufacturer.

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

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

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

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

Warning: Maintain water chemistry in accordance with the Manufacturers instructions.

Warning: The equipment and controls shall be located no less than 1.5 meters horizontally from the spa or hot tub.

WARNING! GFCI OR RCD PROTECTION.

The Owner should test and reset the GFCI or RCD on a regular basis to verify its function.

WARNING! SHOCK HAZARD! NO USER SERVICEABLE PARTS.

Do not attempt service of this control system. Contact your dealer or service organization for assistance. Follow all owner's manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.

• Disconnect the electric power before servicing. Keep access door closed.

CSA COMPLIANCE

Caution:

- Test the ground fault circuit interrupter before each use of the spa.
- Read the instruction manual.
- Adequate drainage must be provided if the equipment is to be installed in a pit.
- For use only within an enclosure rated CSA Enclosure 3.
- Connect only to a circuit protected by a Class A ground fault circuit interrupter or residual current device.
- To ensure continued protection against shock hazard, use only identical replacement parts when servicing.
- Install a suitably rated suction guard to match the maximum flow rate marked.

Warning:

- Water temperature in excess of 38°C may be injurious to your health.
- Disconnect the electrical power before servicing.

TROUBLESHOOTING GUIDE

SPA SYSTEM

| SYMPTOM | PROBABLE CAUSE | RECOMMENDED ACTION |
|--|--|--|
| Spa does not work | <ul style="list-style-type: none"> • Power is turned off | <ul style="list-style-type: none"> > Reset GFCI |
| No display on the control panel | <ul style="list-style-type: none"> • Power is turned off • Defective topside control | <ul style="list-style-type: none"> > Reset GFCI > Contact your Dealer |
| Letters on the control panel | <ul style="list-style-type: none"> • An error has been found | <ul style="list-style-type: none"> > Refer to the Reference Card for your control panel to verify the error. Contact your Dealer for service |

PUMP PROBLEMS

| SYMPTOM | PROBABLE CAUSE | RECOMMENDED ACTION |
|---|---|--|
| Noisy/Loud motor | <ul style="list-style-type: none"> • Air trapped in the pump • Low water level • Worn pump seal • Defective pump | <ul style="list-style-type: none"> > Open bleed valve in the skimmer > Add water to the spa > Contact your Dealer > Contact your Dealer |
| Pumps power down on their own | <ul style="list-style-type: none"> • Set temperature has been reached • Filtration cycle has ended • Automatic time out • Overheat safety protection | <ul style="list-style-type: none"> > No problem > No problem > Pumps are set to run for a predetermined time while the spa is in use (15-20 Mins) > The pumps have a thermal overload which will prevent them from running for extended periods of time. Wait until pumps have cooled down (1+ hrs). If problem persists, contact your Dealer. |
| Pump running constantly, will not turn off | <ul style="list-style-type: none"> • Filter cycle set to 24 hours • Problem with the circuit board | <ul style="list-style-type: none"> > Turn off 24 hour filtration > Turn power off at GFCI and contact your Dealer |
| Pump will not turn on | <ul style="list-style-type: none"> • GFCI tripped • Motor has overheated • Not plugged in • Damaged plug • Seized motor • Blown fuse • Motor vent is blocked | <ul style="list-style-type: none"> > Reset the GFCI > Let cool for 1+ hour > Plug in to the board > Contact your Dealer > Contact your Dealer > Check fuse or contact your Dealer > Clear debris from the vent |

| HEAT PROBLEMS | PROBABLE CAUSE | RECOMMENDED ACTION |
|-------------------------------------|--|---|
| Water will not heat | <ul style="list-style-type: none"> • Error message on control panel • Spa is in a different Heat Mode • Water level is too low • Poor water flow • Closed valves • Pump 1 is not running | <ul style="list-style-type: none"> > Refer to the Reference Card for your control panel to verify the error > Set spa to "Standard Mode" > Add water to the spa > Clean filter & check valves > Open all valves > Contact your dealer |
| Water is too hot | <ul style="list-style-type: none"> • Incorrect reading • Filter cycle duration is too long • Pump speeds reversed | <ul style="list-style-type: none"> > Verify temperature with thermometer > Reduce duration of the filter cycle > Contact your dealer |
| Water will not maintain heat | <ul style="list-style-type: none"> • Cover is off for extended periods of time in cold weather / cold wind. • Hot tub is wired for 110V and jets are on. | <ul style="list-style-type: none"> > Put cover back onto hot tub and allow for heat to regenerate. Call your dealer if temperature does not increase. > Hot tubs wired for 110V only have enough power to heat or operate pumps. Turn off jets to power heater. |

| LIGHTING ISSUES | PROBABLE CAUSE | RECOMMENDED ACTION |
|--|---|---|
| Standard light will not come on | <ul style="list-style-type: none"> • Bulb has burnt out | <ul style="list-style-type: none"> > Replace the light bulb |
| LED lighting not in sync | <ul style="list-style-type: none"> • Burnt out bulb/connection | <ul style="list-style-type: none"> > Contact your dealer |
| LED lighting won't come on | <ul style="list-style-type: none"> • Incorrect settings | <ul style="list-style-type: none"> > Contact your dealer |

| PUMPS WILL NOT PRIME | PROBABLE CAUSE | RECOMMENDED ACTION |
|----------------------------------|--|--|
| Pump on but no water flow | <ul style="list-style-type: none"> • Air trapped in pump • No water in the pump • Closed valves | <ul style="list-style-type: none"> > Loosen bleed valve in skimmer > Check the fill level in the spa > Open all valves |

| HYDROTHERAPY JETS | PROBABLE CAUSE | RECOMMENDED ACTION |
|---|---|--|
| Little to no water flowing from jets | <ul style="list-style-type: none"> • Jets turned off • Pump not primed • Valves are closed • Diverter set to a different seat • Dirty filter | <ul style="list-style-type: none"> > Open jet by turning the face counter clockwise > Reset breaker to allow for the spa to prime the pump. Open bleed valve in the skimmer area > Open valves > Switch diverter > Remove and clean filter cartridge |

| PLUMBING SYSTEM | PROBABLE CAUSE | RECOMMENDED ACTION |
|---------------------------------|---|---|
| Water around base of spa | <ul style="list-style-type: none"> • Loose connections • Leak from internal fitting | <ul style="list-style-type: none"> > Hand tighten all quick disconnects and fittings. > Check gaskets and o-rings > Contact your dealer |



NORTHWIND HOT TUB CONTROLS

INITIAL START-UP

Your spa will enter Priming Mode (PR) when it is energized. During Priming Mode, press “Jets” button repeatedly and be sure the pump is free of air. Priming Mode lasts less than 5 minutes. Press “Warm” or “Cool” to exit. After Priming Mode, the spa will run in Standard Mode (see Mode section).

TEMP CONTROL (80°F - 104°F / 26°C - 40°C)

The last measured water temperature is constantly displayed. The water temperature displayed is current only when the pump has been running for at least 1 minute. To display the set temperature, press “Temp” once. To change the set temperature, press the temperature button and continue pressing the temperature button for each degree, the set temperature will begin to rise until you reach your desired set temperature, once the screen stops flashing the temperature has been set. To decrease the set temperature, press “Temp” button again and continue pressing the temperature button for each degree, the set temperature will decline until you reach your desired set temperature.. After three seconds, the display will stop flashing and begin to display the current spa temperature. The spa will then begin heating (or cooling) in order to reach the set temperature that you have selected.

PUMP

Press “Pump” to turn the pump on or off, and to shift between low and high speeds (if equipped). If left running, the pump will turn off after a preset length of time. Low speed may run automatically at times as part of your spas filtration cycles, during which it cannot be deactivated from the panel, however you will still be able to control the high speed setting. The ozone generator (if installed) will activate anytime low speed is running.

AUX (PUMP 2)

If an additional pump or blower is installed. Press “Aux” to turn the device on. If your additional device is a dual speed pump, pressing “Aux” again will activate the pumps high speed. Pressing “Aux” again will turn off the device/pump.

LIGHT

Press “Light” to operate the spa light. Turns off after 4 hours. If your hot tub is equipped with a multicolor lighting package, then pressing the “Light” button consecutively will toggle the lights through different colors modes.

MODE

Mode is changed by pressing “Temp” then “Light”. Continue Pressing the “Temp” then “Light” button to toggle through the available modes.

Standard Mode maintains set temperatures. “St” will be displayed momentarily when you switch into Standard Mode.

Economy Mode heats the spa to the set temperature only during filter cycles. “Ec” will display when the water temp is not current, and will alternate with water temp when the pump is running.

Sleep Mode heats the spa to within 20°F/10°C of the set temperature only during filter cycles. “SL” will display when water temp is not current. And will alternate with water temp when the pump is running.

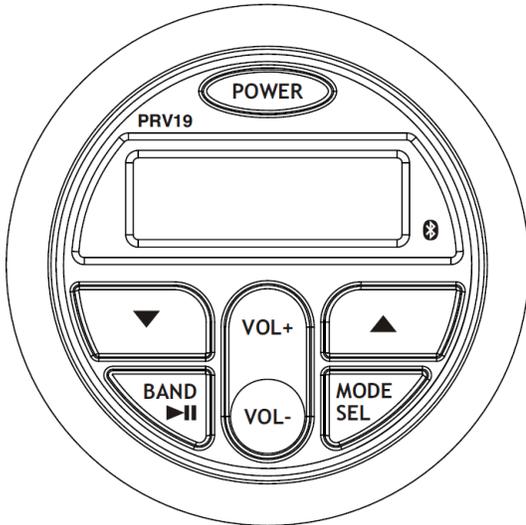
PRESET FILTER CYCLES

The first preset filter cycle begins 6 minutes after the spa is energized. The second preset filter cycle begins 12 hours later. Filter duration is programmable for 2,4,6, and 8 hours or “C” (continuous). The default filter time is 2 hours. To program, press “Temp” then “Pump”. Press “Temp” to adjust. Press “Pump” to exit programming.

TOPSIDE CONTROLS | DIAGNOSTIC MESSAGES

| SYMPTOM | PROBABLE CAUSE | RECOMMENDED ACTION |
|-----------|---|--|
| | No message on display. Power has been cut off to the spa. | The control panel will be disabled until power returns. Spa settings will be preserved until next power up. |
| - - | Temperature unknown. | After the pump has been running for 2 minutes, the current water temperature will be displayed. |
| HH | "Overheat" - The spa has shut down.* One of the sensors has detected 118°F/47.8°C at the heater. | DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If the spa does not reset, shut off the power to the spa and call your dealer for service organization |
| OH | "Overheat" - The spa has shut down.* One of the sensors has detected that the spa water is 110°F/43.5°C. | DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. At 107°F/41.7°C, the spa should automatically reset. If spa does not reset, shut off the power to the spa and call your dealer or service organization |
| SA | Spa is shut down.* The sensor that is plugged into the Sensor "A" jack is not working. | If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat condition) |
| Sb | Spa is shut down.* The sensor that is plugged into the Sensor "B" jack is not working. | If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat condition) |
| Sn | Sensors are out of balance. If alternating with spa temperature, it may just be a temporary condition. If flashing by itself, spa is shut down. | If the problem persists, contact your dealer or service organization. |
| HL | A significant difference between temperature sensors has been detected. This could indicate a flow problem. | If the water level is normal, make sure all pumps have been primed. If problem persists contact your dealer or service organization. |
| LF | Persistent low flow problems. (Displays on the fifth occurrence of message within 24 hours.) Heater is shut down, but other spa functions continue to run normally. | Follow action required for (HFL) message. Heating capability of the spa will now reset automatically. You may press any button to reset. |
| dr | Possible inadequate water, poor flow, or air bubbles in detected in the heater. Spa is shut down for 15 minutes. | If the water level is normal, make sure all pumps have been primed. If problem persists contact your dealer or service organization. |
| dY | Inadequate water detected in heater. (Displays on third occurrence of message.) Spa is shut down.* | Follow action required for (dr) message. Spa will not automatically reset. Press any button to reset manually. |
| IC | "Ice" - Potential freeze condition detected. *Even when spa is shut down, some equipment will turn on if freeze protection is needed. | No action required. All equipment will automatically activate regardless of spa status. The equipment stays on 4 minutes after the sensors detect that the spa temperature has risen to 45°F/7.2°C or higher. An optional freeze sensor may be added to protect against extraordinary freeze conditions. Auxiliary freeze sensor protection is advisable for colder climates. See your dealer for details. |

PRV 19 STEREO SYSTEM



FRONT PANEL LAYOUT

- Power** Power On/Off
Short push for the first time to turn unit on.
With unit powered on, short push for MUTE feature.
Press and hold for more than 2 seconds to turn the unit off.
- MODE** Mode Function.
- SEL** Switches amongst Radio, USB, and Auxiliary.
SEL stands for SELECT.
- BAND** In Radio mode, this works Band Function.
▶|| In MP3 playing mode, it works Play/Pause function
- VOL +** Volume Increase
- VOL -** Volume Decrease
- ▼ Track Down/Tune Down/Reverse
- ▲ Track Up/Tune Up/Fast Forward

GENERAL OPERATION

- **SEL button** Press and hold this button to enter into SELECT function, then repeatedly short push in succession results in the following menu options: Bass, Treble, Balance, Fader, Loud, EQ, Beep, Initial Volume, Area. Press VOL + or VOL - to adjust the options.
- **LOUD.** Choose between Loud ON or OFF
- **EQ.** Choose between Classic, Pop, Rock, Jazz and EQ off.
- **Beep.** Choose between Beep ON, Beep 2ND, Beep OFF.
- **Initial Volume.** Refers to the loudness level upon start of the receiver.
- **Area.** Choose between USA and European.

RADIO OPERATION

- A. **Press ▶||** button (BAND function) to access FM and AM. There are three FM bands and two AM bands.
- B. **Tuning.** A short press of the ▼ or ▲ button results in a search of the station and stops at next sufficient signal strength. A long press results in manual tuning mode.

USB OPERATION

- A. Insert a USB stick into the USB slot. * Songs must be of the mp3 or wma format. *
- B. ▶|| button. Press it to pause the track. Press it again to resume play.
- C. ▼ and ▲ button (Track Up / Track Down)
Short press Track Up or Track Down button to select the next or previous track. Press and hold Track Up or Track Down button to go fast forward and rewind the current

BLUETOOTH OPERATION

The Media device must Bluetooth capability in order to stream music.

- A. To pair your Bluetooth device, press the MODE button on the stereo until BT AUDIO appears.
- B. Press and hold the BAND button until PAIRING appears.
- C. Next, go to settings on the Bluetooth device and turn the Bluetooth option to "on".
- D. Select the "PRV19" from available devices. If you are prompted for a passcode enter "1234". If the stereo does not immediately pair press the BAND button. This will allow the pairing process to finalize. A noise will alert you that the devices are paired.
The display will also read "CONN OK" (Connection Okay).

Note: To disconnect your device press and hold the BAND button. The display will read "DISCONN" to alert you the disconnection is complete.

Note: While playing BT Music press the ▶|| to pause or resume playback.

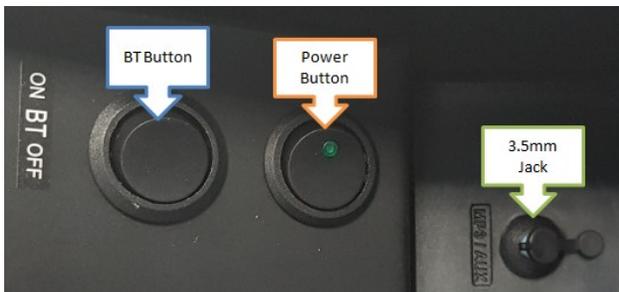


Power

The power button is located inside the Spa Bullet. When power is on, the green light will illuminate.



Connecting MP3/AUX



1. Power on the Spa Bullet by using the power button located inside the tray.
2. Switch the BT button to off
3. Connect the 3.5mm jack to the MP3/AUX port inside the Spa Bullet.
4. Connect the second part of the 3.5mm jack to your device (not provided with the spa).

Connecting Bluetooth

1. Power to the spa needs to be turned ON from the main GFCI breaker.
2. Power on the Spa Bullet by using the power button located inside the tray.
3. Switch the BT button to the ON position. On your device turn the Bluetooth ON, The device will make a series of beeps indication the Bluetooth is on and searching for a device.
4. On your device go to the Bluetooth settings and selected the Spa Bullet.
5. Once the pairing process has completed you will be able play music from your device.

Note: If a password is required for pairing input "0000".

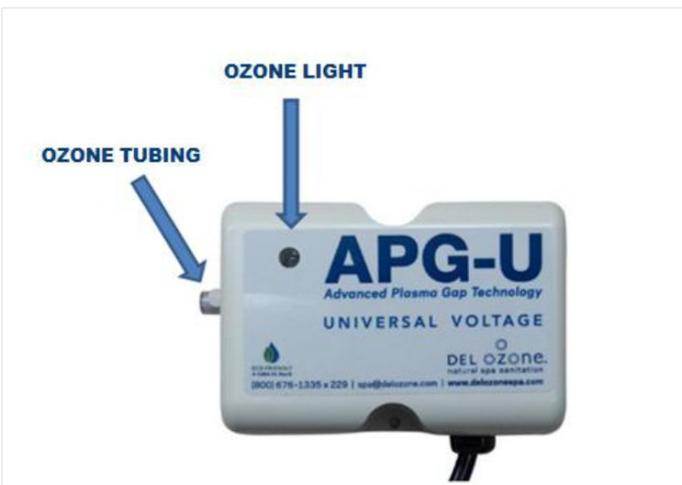
Troubleshooting

Issue: With no music playing a low level noise is coming from the speakers.

Solution: Open the plastic cover and check the BT Button. If the BT button is on this can cause a low level noise as the Bluetooth scans for devices, turn the BT Button to the off position when not in use.

DEL OZONE OPERATION MANUAL

- Ozone will turn on during the programmed filter cycles and pump# 1 operation.
- Verify that the green light on the Ozone turns on when activated.
- Check the spa drain (at the bottom of the spa) to verify that small ozone bubbles are coming out.
- Verify that one way check valve is installed on the ozone tubing and it is working as intended.



IN.CLEAR—GETTING STARTED

See video: <http://www.inclear.ca/inclearstartupprocedure>
For more information: <http://www.inclear.ca/inclearwater>

1. CLEAN THE SPA

It's important to completely clean the spa to remove all residues accumulated on the surface and inside or around the jet area. After draining the spa, use spa cleaning products only. Household cleaners contain additives such as phosphates which may affect the bromine production.

2. TDS (TOTAL DISSOLVED SOLIDS) CHECK

check the TDS (Total Dissolved Solids) of the water you'll use to fill the spa. Verifying the TDS range can be done by your spa selling dealer. The TDS range should be within 50 and 400 PPM. When you're certain the water is within the proper TDS range, fill your spa. If the TDS is higher than 500 PPM, ask your spa dealer for additional information to help reduce initial TDS. DO NOT use water from a "Salt Water Softener" system. Make sure there is adequate flow and that no airlocks are trapped in the unit's plumbing. If airlocks are formed, start the pump and follow the instructions in the owner's manual.

3. ADJUST WATER CHEMISTRY IN THE SPA

Proper chemical maintenance of a spa is essential for the health of bathers. Maintaining the quality of the spa water within these specified values will enhance your enjoyment of the spa and prolong the life of the In.Clear system.

For best results, adjust to the following water chemistry parameters. Check these parameters periodically. **Calcium hardness (TH): between 150 and 200 PPM Total Alkalinity: between 100 and 120 PPM pH: between 7.2 and 7.8**

Water chemistry should be balanced before adding sodium bromide into the water. It's essential that the water chemistry parameters are within the proposed range to obtain optimal system performance. vHigh Calcium Hardness may lead to faster calcification of the electrolytic plates.

4. ADD SODIUM BROMIDE (SUCH AS BROMICHARGE)

Water temperature between 32° and 38° C (90° and 100° F) helps dissolve sodium bromide and facilitates the adjustment of the maintenance level. Start the pump on high speed to allow water to circulate and slowly add sodium bromide uniformly in the spa by simply pouring it from the container. Metric Calculation: Add 0.143 kg of sodium bromide which has a guarantee of at least a 98% active ingredient, such as BromiCharge, per 100 L of water to attain 1400 ppm TDS value (Total Dissolved Solids). Example, if your spa holds 1200 L of water, add 1.72 kg of sodium bromide (12 X 0.143 kg). Imperial Calculation: Add sodium bromide which has a guarantee of at least a 98% active ingredient, such as BromiCharge per 100 US gallons of water.

Example, if your spa holds 300 US gallons of water, add 3.6 lbs of sodium bromide (3 X 1.2 lb).

Note: Your selling dealer can tell you how much water your spa holds (in liters or gallons).

MAINTENANCE MODE

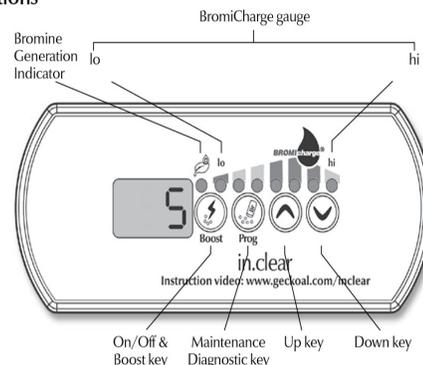
Maintenance Mode keeps the bromine bank levels at a stable and acceptable range when the spa is not being used. Maintenance mode is the "everyday" mode and is automatically ON when the system is activated.

Press and hold the Program key for 2 seconds to change the maintenance mode level.

Use the Up and Down keys to adjust the maintenance level, ranges from 1 to 50.

Finding and setting the right maintenance level will keep the residual bromide level between 3 and 5 PPM (the recommended range). Once the proper maintenance level is determined, keep the same setting unless the spa conditions change (change in water temperature, spa location etc.).

Keypad functions



BOOST MODE

The Boost Mode should be activated every time you use your spa. Boost mode increases the bromine generation rate to attack pollutants in the water and helps rebuild the necessary residual bromine in the water after each use of the spa.

If water quality is not good after use, only boost level should be adjusted, not the maintenance level.

Press the Boost key once while in maintenance mode to start a boost, or to adjust boost settings.

Use the Up and Down keys to adjust the boost level, ranges from 1 to 8.

Note: Boost levels depend on the number of bathers using the spa. We recommend you validate the Boost level after each use to determine the ideal boost level for all numbers of bathers.



Thank you for choosing us!

At Coast Spas Manufacturing we live by the founding mantra, "Quality shall, in every case, take precedence over quantity."

You can rest easy knowing that you chose to trust in a brand that is ISO 9001: 2008 quality certified. We build our spas with only the highest quality components available to endure the most extreme conditions.

Hoping you, your family and your friends all enjoy your new spa for years to come.

Sincerely,

A handwritten signature in black ink that reads "Don Elkington".

Don Elkington, Founder CEO & President