



# Consumer Manual

Revised January 2020

**THANK YOU AND WELCOME TO THE ULTIMATE SPA EXPERIENCE!**

We sincerely hope your spa provides a pleasant experience for you and your family. If problems or questions should arise, please contact your authorized Passion Spa dealer.

Or contact the Glacier Spa main office

Email: admin@glacierspas  
Web: www.glacierspas.ca  
Glacier Spas  
6355 Kennedy Rd  
Mississauga, ON L5T2L7  
Toll Free: 833-900-2234

This manual is provided to enhance the enjoyment of your spa and to prevent non-warranty situations. We encourage you 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 near 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, Glacier Spas reserves the right to modify its products without notice. This could create variations between this manual and the actual product you receive. We apologize for any inconvenience this may cause.

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# 1.IMPORTANT SAFETY INSTRUCTIONS

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

## READ AND FOLLOW ALL INSTRUCTIONS

1. **WARNING:** To reduce the risk of injury, do not permit children to use this product unless closely supervised at all times.
2. **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 hot tub unless they are supervised at all times.

### 120 VOLT, CORD CONNECTED MODELS

3. **DANGER: RISK OF INJURY.** Connect only to a grounded source.
4. Do not bury the power cord.
5. **WARNING:** To reduce the risk of electric shock, replace a damaged cord immediately.
6. A ground terminal (pressure wire connector) is provided on the surface of the control box inside the equipment compartment. This connector should be bonded with a minimum No. 8 AWG (8.42mm<sup>2</sup>) (No. 6 AWG in Canada) solid copper wire between this unit and any metal ladders, metal water pipes, metal enclosures of electrical equipment, conduit, or metal equipment within five feet (1.52m) of the spa. If the spa is located on a reinforced concrete pad, the reinforcing steel should also be bonded to the ground terminal.
7. **WARNING:** Your spa may be equipped with a Ground Fault Circuit Interrupter (GFCI) on the end of the power supply cord. Before each use of the spa, with the plug connected to the power supply and the unit operating, press the “test” button. The unit should stop operating and the GFCI power indicator will go out. Wait thirty seconds and then reset the GFCI by pressing the “Reset” button. The GFCI power indicator will turn on, restoring power to the spa. If the interrupter does not perform in this manner, it is an indication of an electrical malfunction and the possibility of an electric shock. Disconnect the plug from the receptacle until the fault has been identified and corrected.

### 240 VOLT, PERMANENTLY INSTALLED OR CONVERTED MODELS

8. 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 (8.42mm<sup>2</sup>) (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.
9. 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.

## **ALL SPA MODELS**

10. Install the spa so proper drainage is provided.

11. **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/NMFA70-1993. Each metal surface must be permanently connected to a minimum No. 8 (8.42mm<sup>2</sup>) (No. 6 AWG in Canada) solid copper conductor attached to the wire bonding connector on the terminal box provided for this purpose.

12. **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 hot tub.

13. **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 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 medications may induce drowsiness while other medications may affect heart rate, blood pressure, and circulation.

14. **DANGER: TO REDUCE THE RISK OF INJURY TO PERSONS.** Do not remove the suction fittings.

15. **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.

16. **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. Always lock the child resistant locks after using the spa for your children's safety.

## **SAVE THESE INSTRUCTIONS**

### **PERSONAL SAFETY DOs:**

- Be sure your spa is connected to the power supply correctly – only use a licensed electrician
- 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.
- Do not use the spa if water temperature is outside of set temperature.
- Remember that wet surfaces can be slippery. Take care when entering and exiting the spa.
- Lock your cover 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.

### **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 at water temperatures in excess of 102°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
- Don't store chemicals in the spa's equipment compartment.
- Don't hesitate to call your authorized dealer with any questions or maintenance concerns.

## 2. Preparation & Installation

Glacier Spas recommends that you use your Glacier Spa dealer to properly install and setup your spa. If you did not purchase your Glacier Spa from a dealer, then it is suggested that you contact your local dealer or spa professional for proper setup of your spa.

- Place the spa on a flat, level and stable surface and be sure the entire spa is supported by the support structure. Do not shim the spa.
- Before filling the spa, make sure the surface can hold the full weight of the spa, including the weight of the water and the people using it.
- Consult a construction professional to determine if proposed support structure is able to properly support the weight of the spa.
- Be sure sufficient ventilation exists for indoor spa installations.
- Structural damage to the spa as a result of an incorrect installation will void the manufacturer's warranty.
- Make sure that you position the spa in such a manner that you can access the water discharge fitting on the exterior of the spa. This applies to both indoor and outdoor installations.
- Make sure that you position the spa so that all panels and electric components are easy to access for service and maintenance of the spa. This applies to both indoor and outdoor installations.
- Insure that electrical sub-panel and circuit breakers are accessible.
- Do not leave an empty spa exposed to direct sunlight as damage to the acrylic could result.
- Electrical hook-up of your spa must be done by a licensed electrician and in accordance with your local electrical codes. All electrical connections must be made according to the wiring diagram found on the inside of the control box cover. Connections must be made with copper conductors only – do NOT use aluminium wire. All circuit breakers, conductors, fuses and GFCI must be properly sized to the amperage load. Damage caused by improper wiring is not covered by warranty.

### Wiring Requirements

- Permanently connected (hard-wired)
- Rated 240v, 60Hz, 50amp with three wires (#6 copper plus ground) for a total of four wires.
- 50amp breaker required
- A disconnect must be installed within 5' (1.52m) of the inside wall of the spa and within sight from the equipment.
- Connect only to a Class A circuit protected Ground Fault Circuit Interrupter (GFCI)

### 3. Water Fill & Start-up

Your Glacier Spa has been thoroughly water tested at the factory. Because of this you may see some water or discoloration from residue on the spa. This will disappear after cleaning and once the spa is operating and the water is filtering.

After your spa is positioned and installed, you are ready to setup and fill your spa.

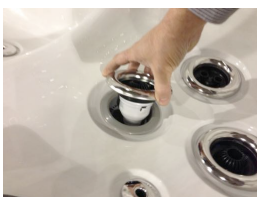
1. Wipe down your spa with warm water and a sponge to remove any packaging debris.
2. Be sure the disconnect fittings to the pumps and heater are tight (hand tighten only).



3. Be sure that the in-line shut-off valves are fully open before filling the spa.



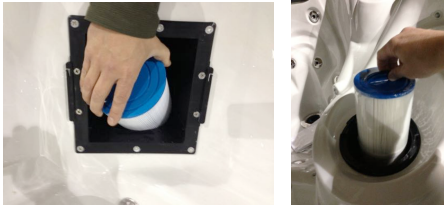
4. Be sure the jets are fully opened by turning them counter-clockwise.



5. Be sure the exterior drain valve is fully closed.



6. Check that filter cartridges are installed. (Both side mount and top mount shown)



7. Always fill the spa with tap water through the skimmer.
8. Be sure the electrical power is turned off prior to filling the spa.
9. Let the garden hose run for a minute before filling up the spa to remove debris.
10. Do not fill up the spa with water with a higher temperature than 100° F. This could cause a false reading in the high limit thermostat when turning on the spa.
11. Fill the spa until the water level reaches the 'Water Level' mark that is mid-way up the front of the skimmer or to 4" above the floating skim filter. This could take some time, depending on your water pressure.
12. When the water reaches the "Water Level" mark on the skimmer, or is 4" above the floating skim filter turn off the tap and remove the hose (exceeding the maximum water level could result to flooding of the spa).
13. Turn on the power to the spa. **WARNING:** Spa must be filled before turning on power.
14. The pump will start in the priming mode and will blow the air out of the system. If, after several minutes, there are some jets without water flowing through them, you may have an airlock. Please follow the instructions below to correct.
15. Refer to the Control Panel Instructions for operating and programming your spa
16. Place the cover on the spa and allow the spa to heat, which will take several hours.

### **Airlocks**

If the pump has not primed and water is not flowing through the jets after two minutes, then you may have an airlock in the pump. Turn off power to the spa and locate the unions that connect the plumbing to the pump. Slight open the unions by turning them counterclockwise until water begins to seep out from the union. Once water comes out the air has been release and you can retighten (hand tighten only) the unions. Turn on the pump and water should now flow through the jets within a couple of minutes.

### **Aromatherapy**

Fill the aromatherapy chamber by removing the cover and filling with the chamber to no more than 1" below the top of the chamber.



Periodically rinse the chamber by pouring fresh water into the aromatherapy chamber.



# 4. Programming

## Revolution Series Programming Highlights



### Filtration

The system is factory-programmed with one filter cycle that will run in the evening (assuming the time-of-day is properly set) when energy rates are often lower. The filter time and duration are programmable. Refer to the *TP600 User Guide (40940)* for detailed instructions.

A second filter cycle can be enabled as needed.

### Dual Temperature Ranges

This system incorporates two temperature range settings with independent set temperatures. The **High Range** is indicated in the display **RANGE ▲** and might be set between 80°F and 104°F. The **Low Range** is indicated in the display **RANGE ▼** and might be set between 50°F and 99°F. Low Range may be economical during non-use periods.

More specific temperature ranges, such as 50°F to 79°F for low range, or 90°F to 104°F for High Range, may determined by the manufacturer.



### Ready and Rest Modes

If the filtration pump is a 2-Speed Pump 1, **READY** Mode will circulate water every 1/2 hour, using Pump 1 Low, in order to maintain a constant water temperature, heat as needed, and refresh the temperature display. This is known as "polling."

**REST** Mode will only allow heating during programmed filter cycles. Since polling does not occur, the temperature display may not show a current temperature until the filtration pump has been running for a minute or two. **READY/REST** Mode may appear when Jets 1 is activated.

### Complete Reference

Download the complete User Interface and Programming Guide at [http://service.balboa-instruments.com/zz40940\\_download.zip](http://service.balboa-instruments.com/zz40940_download.zip)

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5381215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 92, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. All material copyright of Balboa Water Group.

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[www.balboawater.com](http://www.balboawater.com)




# 5. Startup – Quick Reference

## Revolution Series Quick Reference Card



### Start Up

When the GFCI for the spa is switched on to supply power, a startup sequence of numbers will appear on the display. If no button is pressed, **LINK** will appear after the startup sequence. Press any button to link the panel with the system.

The spa will enter **Priming Mode**. After Linking, press the **Jets Button(s)**   to turn the pumps on and off to verify that all air is purged from the plumbing, particularly the plumbing associated with the heater. If the spa uses a circulation pump, the **Light**  Button turns the Circ Pump on and off during Priming Mode. Priming Mode will end automatically in 4 minutes. Pressing a **Temperature Button** will exit Priming Mode manually. When Priming Mode ends, Pump 1 low will start, if no circ pump is present, however the water temperature will not appear for a minute or so. Once the water temperature is recognized by the system, and if it is below the **Set Temperature**, the heater will start.

### Basic Operation

The **Up**  and **Down**  buttons are often referred to as **Temperature Buttons**. Some panels only have a single Temperature Button.

Press a **Temperature Button** once and the current **Set Temperature** will begin to flash on the LCD. (The Set Temperature and the actual water temperature are often different.) *While the numbers are flashing*, press a Temperature Button again to change the Set Temperature. Press-and-hold for faster adjustment. After the new Set Temperature stops flashing, in about 10 seconds, the actual temperature is displayed again and the new Set Temperature is programmed. The spa will now heat to the new Set Temperature as needed.

The **Light**  Button turns the Spa Light on and off and is also used in conjunctions with the Temperature Button(s) to navigate the system menus.

### Programming

Refer to the TP600 User Guide (40940) for detailed operation, programming and message instructions.

Navigating the deeper menu structure is done with only 2 or 3 buttons on the control panel.

Pressing the **Light** button while the Set Temperature is flashing will enter the menus.

Pressing **Light** after that will proceed through the menu choices. Pressing a **Temperature Button** while any menu item is showing will either edit it directly or begin an editing sequence.

Depending on the screen displayed, waiting between 10 and 30 seconds will allow the panel to return to normal operation and a display of spa status.



# 6. Electrical Specifications

Be sure your **qualified and licensed electrician reads this section** and any others relating to the electrical hookup of your spa. A multi-terminal bonding connector, located on the side of the equipment module, is provided to permit connection of a bonding wire between this point and any accessible metal surface within 5 feet of the spa, as may be needed to comply with local requirements. The bonding wire connecting this bonding connector to the accessible metal surfaces must be a solid No. 6 AWG copper conductor. This bonding connector may also be used to bond any field wired components.

A qualified and licensed electrician in accordance with the National Electrical Code and in accordance with any local electrical codes must accomplish all electrical connections to the equipment module in effect at the time of installation. All electrical connections must be made in accordance with the wiring information contained in this manual, or on the back of the field wiring access panel of the equipment module.

**WARNING:** Do not turn ON the power to the spa unless it is filled with water and all slide valves are open. Be sure water level is at the recommended point. If the power is ON, the system may start even though the controls were not activated. If the equipment module is started without sufficient water in the spa, the system could be permanently damaged and will not be covered under warranty. Also, operating the spa without sufficient water could cause a fire.

## Electrical Specifications

**IMPORTANT:** Qualified and licensed electricians must perform all electrical hookups. The following specifications must be followed in order to ensure proper performance and safety.

**WARNING:** Starting an incorrectly wired spa could cause severe damage to the mechanical equipment or even bodily harm. Have your licensed electrician verify GFCI wiring with the schematics on Page 6 prior to starting the spa. (If spa is installed in the United States and Canada use Page 6 for your electrical requirements.)

**CAUTION:** Failure to abide by specifications listed may result in damage to the equipment and will void the warranty.

### United States

All spas must be wired with a 50 Amp breaker. Failure to do so will cause equipment damage and will not be covered under your warranty. All spas must be protected with an over current protective device with built-in GFCI in the service panel. Swim Spas may require a larger breaker.

**CAUTION:** Connect only to a circuit protected by a residual current device. Test the RCD before each use of the spa.

**IMPORTANT:** To allow the 240V GFCI to function properly, connect the white neutral wire from the spa to the neutral terminal on the GFCI breaker, not the neutral bus in the GFCI breaker box. An improperly connected neutral causes the GFCI breaker to trip.

Voltage	Breaker Size	Wire size	Country
230V 50Hz	IEE Wire Regulation	3x4 mm <sup>2</sup>	European Union
240V 60Hz	50 Amp dedicated	6/3 with Ground	U.S. and Canada

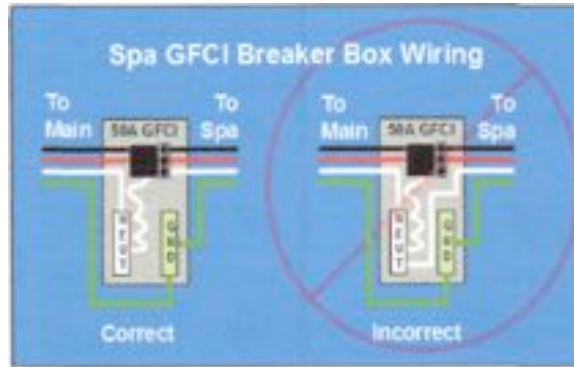
**WARNING:** For Spas Equipped with Audio Components: Audio components are optional and not available on all models. Do not connect any auxiliary components, for example, cable, additional speakers, headphones, etc., to the system.

**CAUTION:** Risk of electric shock: Do not leave audio compartment door open. Replace audio components only with identical components.

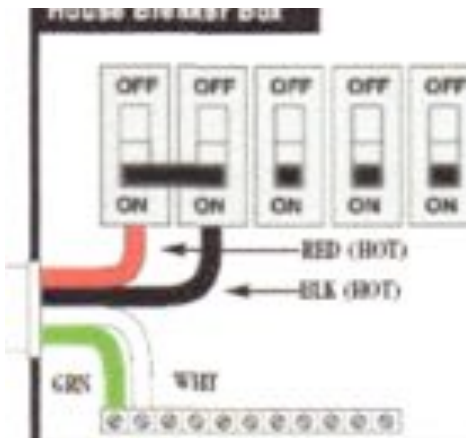
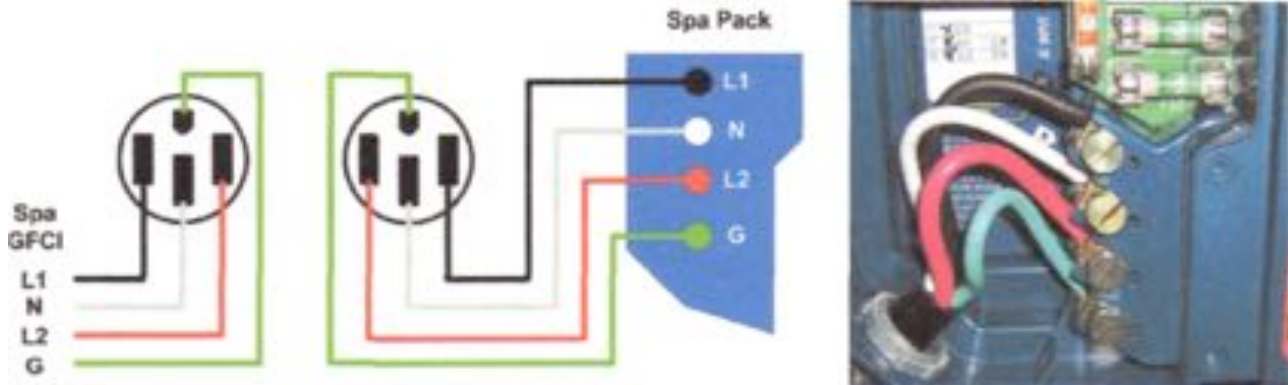
Parts with extra low voltage, not exceeding 12v, must be inaccessible to a person in the spa. Electrical appliances must be permanently connected to fixed wiring. Parts incorporating electrical components, except remote control devices, must be located or fixed so that they cannot fall into the spa. Appliances should be supplied through an RCD having a rated residual operating current not exceeding 30ma.

Means for disconnection must be used in fixed wiring in accordance with wiring rules. **IMPORTANT:** To allow the 240v GFCI to function properly, connect the white neutral wire from the spa to the neutral terminal on the GFCI breaker, not the neutral bus in the GFCI breaker box. An improperly connected neutral causes the GFCI breaker to trip.

# 7. Wiring Diagrams

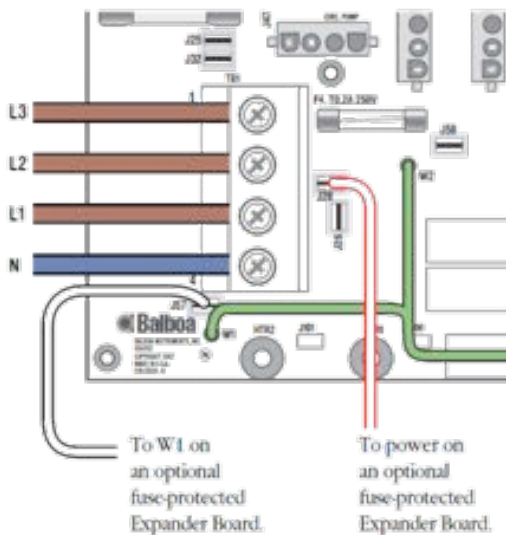
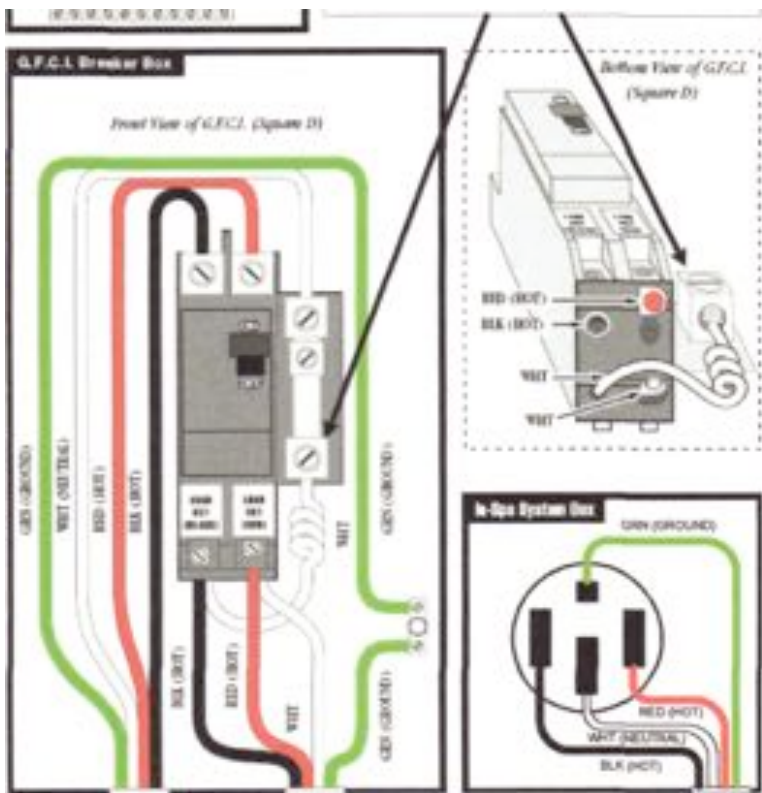


Spa Receptacle Spa Plug



**IMPORTANT:** Installation of this GFCI Circuit Breaker, including ampere sizing and selection of conductor size and type MUST be performed by a qualified and licensed electrician in accordance with the U.S. National Electrical Code, and all federal, state, and local codes and regulations in effect at the time of installation.

**NOTE:** The WHITE neutral wire from the back of the GFCI MUST be connected to the incoming neutral. The internal mechanism of the GFCI requires this neutral connection.



### 3-Phase Service, TN and TT Electrical Systems 5 Wires (3 Lines + 1 Neutral + 1 Protective Earth)

Protective Earth wire (Green/Yellow) must be connected to system ground terminal as marked.

**IMPORTANT** - Service **MUST** include a neutral wire, with a line to neutral voltage of 230VAC.

*The heater runs on service line L1.*

*All main-board equipment run on service line L3. Additional equipment, such as expansion boards, run on service line L2.*

Completely remove the white wire from J26 and J32, or J25.

Completely remove the blue wire from J28 and J58.

Systems using only 1 DIP switch (A10) for heat disable:  
DIP Switch A10 must be OFF.

Systems using multiple DIP switches for heat disable:  
Refer to system Hot Sheet DIP Switch Definition page and set both switches shown in Table 1 to ON positions.

#### NOTE:

- Not all GS5xxZ systems can support 3-Phase.
- 3-Phase requires System PCB Rev B.
- If using an expansion board, the board must have fuse-protection.

## 8. Water maintenance

For sanitation, health and enjoyment reasons, it is important to maintain proper water chemistry in your spa. There are many viable water chemistry programs available, and your local dealer can recommend a water treatment program that is appropriate for you. The type and amount of water chemicals used will vary depending on number of gallons of water, whether there is UV sanitation system, and the type of chemical product that is used. Regardless of the type of water treatment used, it is important to keep your water chemistry in balance for your safety and for the longevity of your spa.

To maintain optimal water purity, your Glacier Spa is equipment with a very effective water filtration system. The water circulates through drains in the bottom of the spa and through a skimming filter at the top. The surface of the water is skimmed to collect floating debris, and this water is drawn through a filter that strains the water and collects the debris. It is necessary to clean the filter on a regular basis, and this procedure is explained further under Chapter 7.

Your Glacier Spa is equipped with an ozone system to assist in keeping your water sparkling clean. Ozone gas is pumped into the spa and helps purify and clarify the water. Use of ozone will make your chemical system work more effectively and provide added assurance that your spa water is properly maintained for your health and enjoyment. The Signature and Exclusive Collections are also equipped with ultraviolet (UV) sanitation systems and these are explained in Chapter 6.

Your Glacier Spa is also equipped with an aromatherapy system. While aromatherapy does not provide specific health benefits, it is a way in which you can further enjoy your spa experience through the use of scents that mix with the water. Your dealer will have a supply of various aromatherapy scents for you to choose from if you would like to use this feature in your spa.

It is recommended that you perform the following on a scheduled basis:

Weekly: Test your water chemistry weekly

Weekly: Clean your filter(s) weekly

Change your water and clean the shell

While circumstances may cause you to alter this schedule to your own specific needs and schedule, it is a good idea to get on a regular maintenance program with your spa.

# 9. UV Sanitation

## How Does UV Sanitation Work?

### What Is UV Sanitation?

UV-C (ultra violet) spa sanitation is a non-chemical method for sanitizing spa and pool water. The process uses invisible germicidal UV light rays to sanitize the water. The UV process emits a high intensity light ray that immediately alters the DNA of organisms such as algae, viruses, protozoa and bacteria, preventing them from replicating and making them inert.

### What Is The History Of UV Sanitation?

European scientists discovered UV water sanitation over 100 years ago after learning that the surface of lake water was largely sterilized when exposed to sunlight. This discovery eventually led to the invention of UV light bulbs, which further led to water sanitation for pools and then spas.

### Is UV Safe?

There is much history, precedent and science behind UV water sanitation. Since UV is a physical rather than a chemical process, there are no residual effects. UV greatly reduces the need for other chemicals in the spa water. Additionally, UV sanitation can stop crypto (cryptosporidium) almost immediately, keeping your spa safe and sanitized for your family! The World Health Organization acknowledges the advantages of UV water treatment and some local governments have UV sanitation mandatory in public pools and spas.

### How Does UV Work In The Spa?

The UV light is contained within a chamber through which the water flows. UV sanitizes the water that flows through the chamber and delivers the purified water back into the spa.

### Should I Use An Ozone System?

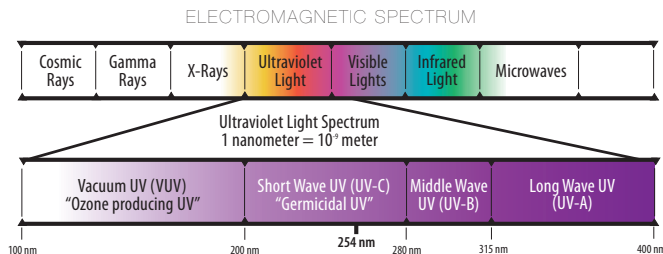
UV sanitizes the water whereas Ozone clarifies and cleans the water. The most effective water system will have both Ozone and UV systems which, when combined, greatly reduce the need for other chemicals.

### What Will UV Do For Me?

The use of a UV system will reduce the water maintenance in your spa, lower the cost of chemicals, and greatly increase your peace-of-mind, knowing that your spa water is safe and sanitized!

## The Germ Killing Zone

The UV-C range of the light spectrum is where germicidal action occurs. Less expensive low-pressure lamps operate at 254 nanometers, while medium-pressure lights, with a broader killing power, operate between 200 and 600 nanometers.



## 10. Filter Maintenance

Proper water filtration is essential to water maintenance. Water is constantly flowing through the filter and as a result the filter(s) require cleaning on a regular basis. Dirty filters can cause added stress on your pump since water flow can be restricted, thereby shortening the life of your pump.

Glacier Spas recommends that you clean your spa filter(s) on a weekly basis or as needed based on your actual spa usage. Using a garden hose, aim the water at a 45° angle to the ground and spray the debris thoroughly from the filter. Be sure to rinse through each pleat in the filter to completely remove debris that has lodged within the pleats.

Every 2-4 months it is recommended that you soak the rinsed filters in a cleaning solution for 24 hours. Your dealer can provide the proper filter cleaning solution for this process. It is a good idea to purchase an extra set of filters so that you can always have a clean set ready for use when soaking the dirty set on a periodic basis. Some tips when cleaning your filter:

- Never use a brush to clean the filter as it will degrade the fiber filter material
- Do not use any cleaning solution other than what your dealer recommends
- Do not use a pressure washer to clean the debris from the filter

## 11. Spa Cover

Your Glacier Spa is equipped with a high-quality walk-on safety cover that provides excellent heat retention for your spa. The marine grade vinyl is UV treated for maximum protection from the sun, but it is suggested that you maintain your cover for maximum life and performance.

Cleaning steps:

- Periodically rinse your cover – top and bottom – with cold water from a garden hose
- Gently wash the cover with a mild, non-foaming cleaning agent (see your dealer)
- Rinse thoroughly

Avoid petroleum based products, abrasive cleaners, and cleaners that contain alcohol. Also, a cover lift device will protect your cover from wear marks that occur when dragging the cover off from the spa. See your dealer for more information on lift devices.



## 13. Spa Maintenance

Your dealer can provide specific guidance on your spa and water maintenance based on your anticipated usage. However, it is generally recommended that you change the water in your spa every 2-4 months. Draining your spa is very simple, and can be accomplished as follows:\

- Turn off the power to the spa
- Remove the cover
- Remove the drain valve cap and attach the garden hose connector

Since there were chemicals in the water, it is suggested that you do not drain the water onto vegetation that could be damaged by chemicals still active in the water. The water drains via gravity, so it may take a few hours to drain the spa.

Once the spa is drained:

- Remove the hose connector and place the cap back on the drain valve
- Use a sponge and bucket to remove the remaining water
- Use the sponge to collect any sand or debris that is in the floor and seats of the spa
- Wipe down the entire spa surface with a sponge and clean water
- Replace the filter(s) with a clean filter(s)
- Refill the spa with fresh water and follow the initial setup procedures

# 14. Troubleshooting

The following are some basic steps that can be performed by the spa owner if the spa does not appear to be operating properly. If these steps do not correct the problem, then contact your dealer or Glacier Spas for assistance. Improper servicing that is performed by an unauthorized service provider may void the warranty and could harm or cause bodily injury.

## **EQUIPMENT WILL NOT OPERATE**

- Consult the control panel for error message diagnostic code.
- Check the circuit breaker on the main electrical panel.

## **INSUFFICIENT JET ACTION**

- Check that the shut-off valves are completely open.
- Be sure the jet faces are turned fully open (counter-clockwise) for maximum water flow.
- Insure that there is enough water in the spa according to Section 3.
- Switch the system “on” and “off” a couple of times via the control panel.
- Have you insured there is not an airlock according the instructions in section 3?

## **THE SYSTEM WILL NOT SHUT OFF**

- The spa is in the middle of a heating or filtration cycle and can only be turned off when finished.

## **BLOWER TURNS “ON” AND “OFF” BY ITSELF**

- The blower is designed to “purge” the lines automatically periodically to prevent water from stagnating in the lines.

## **THE WATER DOES NOT GET HOT**

- Check the temperature setting on the control panel.
- Check that the filter(s) are not dirty and clogged.
- Be sure water level is sufficient according to Section 3.
- The Mode button is in the SLP (Sleep) setting. See display instructions.
- The Mode button is in the ECO (Economy) setting. See display instructions.

## **WATER IS TOO HOT**

- The temperature may be set improperly on the control panel.
- There may be a defective temperature sensor. Contact your dealer.
- Pump(s) has been operating at high speed for too long.
- Pump(s) may be stuck in “high” speed. Power down the system and contact your dealer.

## **WATER IS LEAKING FROM THE SPA**

- Water level may be too high. Drain some of the water.
- Condensation may be dripping from the cover. Check the cover placement.
- A joint or connection is leaking. Contact your dealer.