

# Owner's Manual

For all 2004 Bullfrog Portable Spas

*(Multiple Patents with Other Patents Pending)*



Powered By JetPaks™

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# IMPORTANT SAFETY INSTRUCTIONS

Basic safety precautions should always be followed when installing and using electrical equipment. Read and follow all instructions:

## U.L./CSA SAFETY INSTRUCTIONS:

1. **WARNING: To reduce the risk of injury, do not permit children to use this product unless closely supervised at all times.**
2. **WARNING- To reduce the risk of injury:**
  - a. Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult. Water temperature in excess of 104°F (40°C) may be injurious to your health. Lower temperatures are recommended for young children and/or when spa use exceeds 10 minutes. **Before entering the spa, measure the temperature with an accurate thermometer.**
  - b. 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 usage when temperatures are in excess of 100°F (38°C).
  - c. The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
  - d. Individuals using medication should consult a physician before using a spa. Some medications may induce drowsiness while other medication may affect heart rate, blood pressure, and/or circulation.
  - e. Individuals suffering from obesity or a medical history of heart disease, low or high blood pressure, circulatory system problems, and/or diabetes should consult a physician before using a spa.
3. **WARNING – Risk of Fatal Hyperthermia.** Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature (98.6°F/37°C). The symptoms of Hyperthermia include dizziness, lethargy, drowsiness, and fainting. The use of alcohol, drugs, and/or medication can greatly increase the risk of fatal Hyperthermia. The effects of Hyperthermia include:
  - Unaware of impending hazard
  - Failure to perceive heat
  - Failure to recognize the need to exit the spa
  - Physical inability to exit the spa
  - Fetal damage in pregnant women
  - Unconsciousness and danger of drowning
4. **WARNING – Risk to Infants, Elderly, and Women Planning or Experiencing Pregnancy.** Please consult your physician if the above applies to you or anyone using the spa.
5. **WARNING – Risk of Children Drowning.** Although your spa cover is not rated as a safety cover, it is wise to always keep the spa cover securely fastened when not in use. This will help discourage children from attempting to enter the spa unsupervised.
6. **WARNING – Risk of Drowning.** Use caution when bathing alone. Overexposure may cause nausea, dizziness, and fainting.
7. **WARNING – Risk of Injury:**
  - a. To avoid injury, exercise care when entering or exiting the spa. Surfaces can be slippery when wet. Do not step or sit on headrests. Also, keep all breakable objects away from the spa area.
  - b. Do not use the spa immediately following a strenuous exercise.
  - c. Prolonged immersion in the spa may be injurious to your health.
  - d. Individuals with infectious diseases should not use the spa.
  - e. Short-term inhalation of high concentrations of ozone and long-term inhalation of low concentrations of ozone can cause serious physiological effects. Do not inhale ozone gas produced by the Ozone Sterilizer.
  - f. Maintain water chemistry in accordance with chemical manufacturer's instructions.

8. **DANGER - Risk of Accidental Drowning.** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use the spa without proper supervision.
9. **DANGER- Risk of Injury.** The suction fittings in the spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible.  
Never operate the spa if the suction fittings are broken or missing. Do not replace a suction fitting with one rated less than the flow rate marked on the original suction fitting.
10. **DANGER – Risk of Electric Shock.**
  - a. Install spa at least 5 feet (1.5m) from all metal surfaces. A spa may be installed within 5 feet (1.5m) of metal surfaces if each metal surface is permanently connected by a minimum of No. 8 AWG (8.4mm) solid copper conductor to the wire connector on the terminal box that is provided for this purpose.
  - b. Do not permit any electrical appliances, such as a light, telephone, radio, or television within 5 feet (1.5 m) of the spa. These units DO NOT have an integral ground fault circuit interrupter. The installation of an integral ground fault circuit interrupter MUST be completed by a qualified Electrician.
  - c. Do not operate the spa during severe weather conditions (e.g. electrical storms, tornadoes, etc.).
11. **CAUTION – Unauthorized Access.** Secure the spa area against unauthorized access. Make sure all barriers meet both state and local codes. Keep spa cover on when it is not being used.
12. **CAUTION – Risk of Damage to Spa or Equipment.** By performing maintenance, the chance of damage to your spa and its equipment will be reduced. Never block the air vents that lead to the spa equipment compartment, doing so may cause the spa to overheat.
13. **CAUTION:** Test the ground fault interrupter before each use of the spa.
14. **CAUTION:** Adequate drainage must be provided if the equipment is to be installed in a pit.

 <b>WARNING</b>	
DURING PREGNANCY, SOAKING IN HOT WATER MAY CAUSE DAMAGE TO THE FETUS. LIMIT USE TO 10 MINUTES AT A TIME.	
<b>PREVENT DROWNING</b> 1. SPA HEAT SPEEDS UP THE EFFECTS OF ALCOHOL, DRUGS, OR MEDICINE AND CAN CAUSE UNCONSCIOUSNESS. 2. IMMEDIATELY LEAVE SPA IF UNCOMFORTABLE OR SLEEPY.	<b>PREVENT CHILD DROWNING</b> 1. WATER ATTRACTS CHILDREN. ALWAYS ATTACH A SPA COVER AFTER EACH USE.  <b>PREVENT INJURY</b> 1. ALWAYS CHECK WATER TEMPERATURE BEFORE ENTERING SPA. WATER TEMPERATURE SHOULD NOT EXCEED 104°F (40°C).

 <b>WARNING</b>	
<b>PREVENT DROWNING</b> 1. SUPERVISE CHILDREN AT ALL TIMES. 2. ATTACH SPA COVER AFTER EACH USE. 3. SPA HEAT CAN CAUSE HYPERTHERMIA AND UNCONSCIOUSNESS. 4. SPA HEAT IN CONJUNCTION WITH ALCOHOL, DRUGS, OR MEDICATION CAN CAUSE UNCONSCIOUSNESS.	<b>PREVENT ELECTROCUTION</b> 1. NEVER PLACE ANY ELECTRIC APPLIANCE WITHIN 5 FEET OF SPA.  <b>PREVENT INJURY</b> 1. ALWAYS CHECK WATER TEMPERATURE BEFORE ENTERING SPA. WATER TEMPERATURE SHOULD NOT EXCEED 104°F (40°C).
NOTE: THIS MARKING IS TO BE REMOVED ONLY BY THE OWNER.	

 <b>WARNING</b>	
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Included with the spa are warning signs to inform occasional users and guests of the risk involved with using a spa. This warning sign is suitable for indoor or outdoor use. Place this warning sign in a noticeable place adjacent to the spa. Free copies call Bullfrog International, L.C. 801-565-8111.

## UPGRADING YOUR BULLFROG SPA

The following are possible upgrades for your Bullfrog Portable Spa:

**New JetPak™ designs:** As new jet types and styles become available so will new innovative JetPak™ modules. Check with your authorized Bullfrog Portable Spa Dealer on a yearly basis to see what is available.

**PowerPlus™:** When you are ready for more horsepower or jets, contact your authorized Bullfrog Portable Spa Dealer.

**WellSpring™ Ozone Sterilizer:** For cleaner spa water, we use a simple, reliable, user-friendly, and affordable ozone system on the market. If your spa did not come with one, it is well worth the investment. **Important:** *Your spa is designed, tested, and UL listed with Bullfrog CDS-16 or MCD-50 high output ozone sterilizer. No other ozone sterilizer is recommended for your Bullfrog Portable Spa.*

**LED Lighting System:** This unique lighting system offers 8 different light “shows” with different colors and different schemes.

**CoverMate-I Cover Lifter:** Take the work out of uncovering and covering your spa – let Bullfrog’s cover lifter do the job for you. In addition, the cover lifter neatly stores the cover behind the spa, offering a privacy wall.

**PowerDrain™:** This optional accessory allows Bullfrog Spa owners the ability to drain the spa water in five to nine minutes.

**SpinClean™ Filter Cartridge Cleaning System:** Allows owners to more effectively clean the filter cartridges of debris.

**Spa & Yard™ Stereo:** Stereo/CD player with spa side control and Bose® speakers.

**Miscellaneous Upgrades:** For upgrades as they become available, please visit your authorized Bullfrog Spa Dealer.



## INSTALLATION & SET-UP

Before attempting to install or use your spa, please read the U.L./CSA Safety Instructions, the Additional Safety Instructions, as well as all of the installation instructions that follow.

### SELECTING A SITE FOR YOUR SPA

Your Bullfrog Portable Spa was designed for either indoor or outdoor use. Please adhere to the following guidelines:

**Important:** *With all installations, the spa must be located at least 5 feet (1.5m) from all electrical outlets, switches, and other permanently installed electrical devices.*

1. Select a site that is stable and capable of supporting the weight of the spa (depending on the model, the spa can weigh between 3950 to 5564 lbs), its water, and the people using it. If installed on a suspended floor or deck make sure the structure can handle the weight. If you have concerns on this matter, please contact a qualified licensed Contractor.
2. Select a flat surface and reasonably level. This surface must provide continuous support for the entire bottom of the spa. Do not shim or block up the spa creating voids underneath.
3. Avoid installing the spa in a pit or low area where water may accumulate and damage the spa or its equipment. Choose a site where water will drain away from the spa.

#### Indoor Considerations

There are several considerations when installing your spa indoors. First, the environment both around and below the spa should be water resistant. It must be capable of handling water splashed out from the spa as well as the possibility of a leak. Your Bullfrog Portable Spa is the most leak-free spa in the industry, but there is still a chance of a leak from the spa. A catch basin equivalent to the volume of water is recommended. Second, it is recommended that the room be properly ventilation. Proper ventilation can usually be achieved by an exhaust fan or an open window. **Note:** *Typical indoor surfaces include, but are not limited to: concrete, wood, non-slip tile, or linoleum.*

#### Outdoor Considerations

There are several considerations when installing your spa outdoors. First, avoid selecting a site where excessive water may contact the spa, such as sprinklers or a roof edge without rain gutters. Second, avoid areas of direct, prolonged sunlight (if possible). The ultraviolet rays will fade and damage the spa cover and cabinet. Third, check your local codes on possible restrictions that require fencing or childproof gates around the spa. Last, avoid positioning your spa in an area where debris will be tracked into the spa. **Note:** *Typical outdoor surfaces include, but are not limited to: concrete, brick, non-slip tile, wood decking, pea gravel, or sand.*

## ELECTRICAL REQUIREMENTS & HOOK-UP

All Bullfrog Portable Spas must be wired in accordance with all local & national electric codes. Have a licensed Electrician perform the installation. **Important:** *All metal enclosures, pipe, or conduit located with 5 feet (1.5 m) of the spa must be bonded to the Control Center box located inside the equipment compartment of the spa. The wire used to complete the bonding must be a minimum of No. 8 solid copper wire. It is to be connected to the ground lug connector on the exterior surface of the Control Center box and all metal items described above.*

### WIRING SCHEMATIC

Please reference the wiring schematic for assistance with the installation instructions.

#### 120V/240V CONVERTIBLE EQUIPMENT

Unless special ordered with 120V equipment, Bullfrog Portable Spas come standard with 240V. If your spa is equipped with a single pump BF02 control box, it can be wired as a dedicated 120V or 240V system.

With the 120V BF02 Control box, you can take advantage of the PowerPlus™ feature by upgrading your 120V system to a more powerful 240V system. The 240V system allows you to increase horsepower as well as heating capacity.

For specific conversion instructions, please refer to the System Wiring diagram located on the inside of the control system box.

#### **120V INSTALLATION**

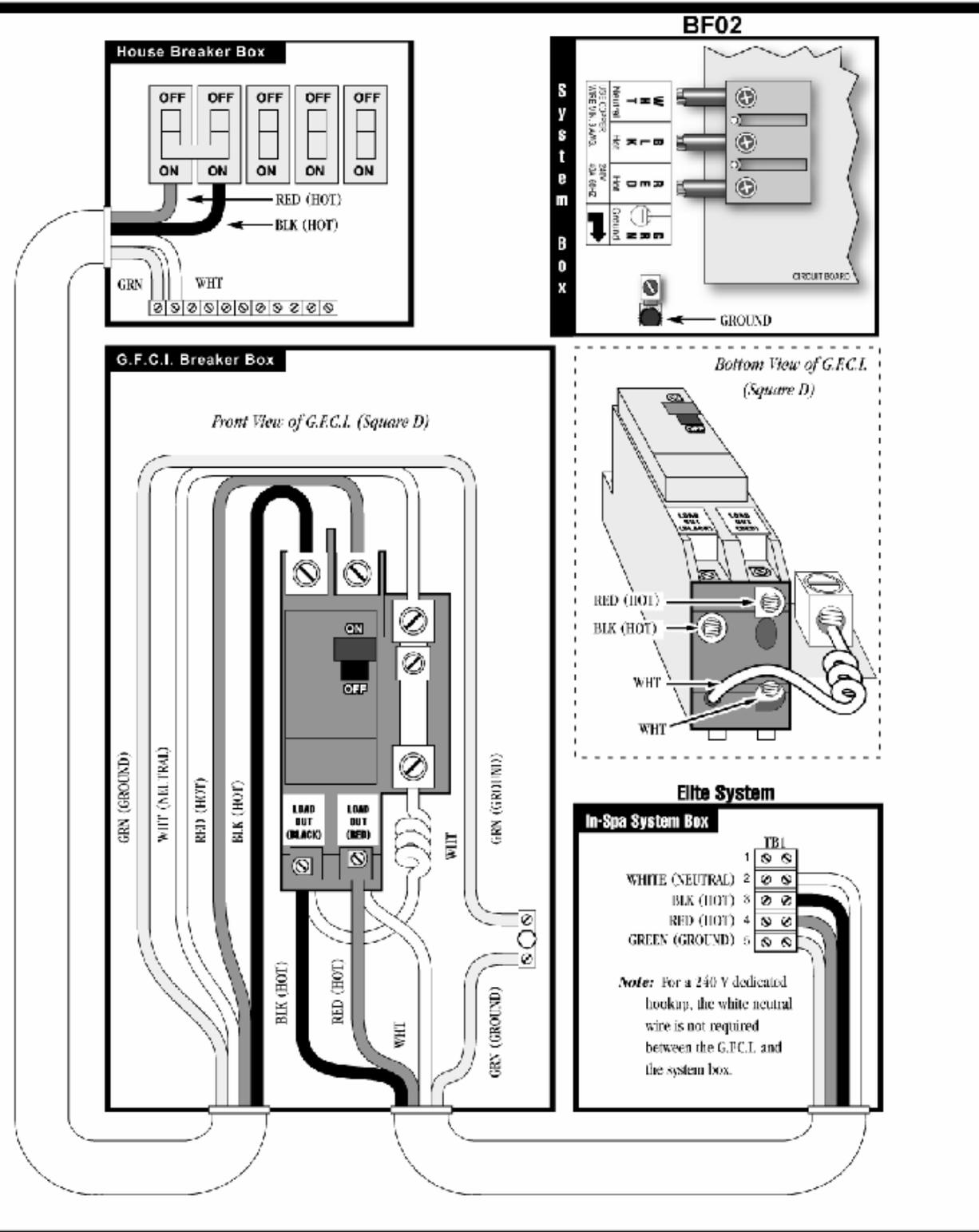
A 120V spa requires a dedicated GFCI 20 AMP electrical circuit and a minimum supply wire size of 12 gauge. It is important the circuit is dedicated, not being used by another electrical appliance, or damage may result to the electrical components due to improper voltage.

#### **240V INSTALLATION**

A 240V spa requires a dedicated 50 AMP electrical circuit and a minimum 6 gauge supply wire. It is important that the circuit is dedicated, not being used by another electrical appliance, or damage may result to the electrical components due to improper voltage.

If you do not have 50 AMPs of electrical service available, your authorized Bullfrog Portable Spa dealer or Electrician can easily convert the spa to operate on 30 AMPs with a minimum 10 gauge supply wire. Please be aware, spas converted to 30 AMPs are only capable of heating the water when the circulation pump is in low-speed, not high-speed. This heating limitation is acceptable in most climates as well as indoor installations.

# WIRING SCHEMATICS



## ELECTRICIAN'S INSTRUCTIONS

**NOTICE:** As of January 1, 1994, the national Electric Code (Article 680-42) requires that all spas, hot tubs, and associated electrical components be protected by GFCI.

### 120V Service

As per code, supply a GFCI protected, 3 wire (Line 1, Neutral and Ground), 20 AMP, 60HZ, Single-Phase service to the front, left corner (when facing the control pad) of the spa. This service must include a disconnect that is visible from the spa and located no less than 5 feet and no more than 50 feet from the spa (a GFCI Sub-Panel may be used to substitute the disconnect if located with the same parameters).

### 240V Service

As per code, supply a GFCI protected, 4 wire (Line 1, Line 2, Neutral and Ground), 50 AMP, 60HZ, Single-Phase service to the front, left corner (when facing the control pad) of the spa. This service must include a disconnect that is visible from the spa and located no less than 5 feet and no more than 50 feet from the spa (a GFCI Sub-Panel may be used to substitute the disconnect if located with the same parameters). **Note:** Contact an authorized Bullfrog Portable Spa dealer or Bullfrog International, L.C. for a GFCI wiring diagram.

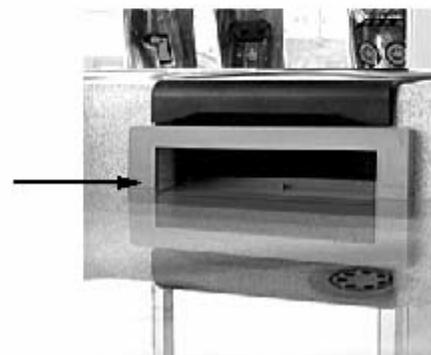
### Connecting the Spa:

1. Remove the equipment compartment door.
2. Remove the faceplate to the Control Center.
3. Connect a 1" non-metallic coupling and conduit to the 1" male CPVC pipe found at the base of the spa cabinet.
4. Run the required wires through the conduit to the Control Center.
5. Connect the 3-wires/120V system or 4-wires/240V system to the terminal block located in the Control Center.
6. Replace the Control Center faceplate and the equipment compartment door.
7. The electrical hook-up is complete.

## CHECKLIST BEFORE FILLING SPA

**Important:** The equipment should never be operated without water in the spa. Serious damage to the pump and/or heater may occur.

- Check Drain Cap:** Make sure the drain cap is fastened securely (located at the end of the drain hose).
- Tighten Equipment Fittings:** Hand tighten all PVC pipe unions and pump drain plugs, located in the equipment compartment. This will prevent the possibility of a leak (fittings can loosen during shipment).
- Check Valve Keepers:** Verify that a valve keeper is installed on each slice valve. Valve keepers prevent the valve from vibrating shut during shipment or operation. A slice valve that closes will result in a noisy pump due to the lack of water flow.
- Fill the Spa:** Fill the spa to the water level indication on the faceplate of the filter assembly. **Note:** To avoid air pockets in the pumps and in the main plumbing intake, fill the spa through the filter assembly. The higher the water level, the fewer users it will be able to handle. Also, do not fill the spa with soft water unless the mineral content is raised immediately (consult your authorized Bullfrog Portable Spa dealer).
- Check for Leaks:** After the spa is filled check all fittings and equipment for signs of leakage BEFORE turning the spa on. If a leak is detected, tighten the fitting by hand, if the leak persists contact your authorized Bullfrog Portable Spa dealer.
- Install Cover:** The spa cover comes with tie-down straps and locking hardware that attaches the cover to the spa or decking. If your dealer did not install the cover, refer to the Cover Installation instructions that came with the cover.



## CONTROL SYSTEM OPERATION

**Important:** Bullfrog Portable Spas come either with a Select or Premier Control System. Refer only to the Control System that applies to the spa.

**Warning:** This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instruction, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a class B computing device in accordance with the specifications in subpart j of part 15 of the FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient the receiving antenna. Relocate the receiver with the respect to the spa. Move the receiver away from the spa. Plug the receiver into a different outlet so that the receiver and spa are on different branch circuits. If necessary, the users should consult the dealer or an experienced Radio/Television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful, "How to identify and resolve radio-TV interference problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, and Stock No. 004-000-00345-4.

## SELECT CONTROL SYSTEM

**Timeouts** refer to a preset length of time that a function is programmed to operate before shutting off automatically. Certain conditions (filters or freeze) can cause a function to operate longer, while faults can cause a function to operate for a shorter length of time. The system keeps track of timeouts regardless of other conditions.

In multi-button sequences, if buttons are pressed too quickly they may not register.

### Initial Start-Up

When your spa is first actuated, it will begin the Priming mode. The Priming mode will last for up to 4 minutes, and then it will begin to heat. You can exit the Priming mode early by pressing TEMP.

### Temp Set (80°F - 104°F/26.0°C - 40.0°C)

The start-up temperature is set to 100°F (37.5°C). The last measured temperature is constantly displayed on the Liquid Crystal Display (LCD). **Note:** The spa temperature displayed is only current when the pump has been running for at least 2 minutes.

### Temp

Press TEMP once to display the set temperature. To change the set temperature, press TEMP a second time before the LCD stops flashing. Each press of the TEMP button will increase or decrease the set temperature. After 3 seconds, the LCD will automatically display the last measured temperature. **Note:** To reverse direction, pause 3-5 seconds in between pressing TEMP.

### Spa Modes

A multi - button sequence is used to switch between Standard, Economy, Standby, and Sleep modes. Press TEMP followed by LIGHT to enter mode programming. Press TEMP to cycle through to desired mode then press LIGHT to confirm selection.

**Standard Mode (Std):** maintains the desired temperature of the spa.

**Economy Mode (Ecn):** heats the spa to the set temperature only during filter cycles. Ecn will alternate with the temperature until it is current. Pressing JETS 1 while in Economy mode places the spa in Standard-In-Economy mode (SE), which operates the same as Standard mode however; it will revert to Economy mode automatically after 1 hour.



**Standby Mode (Sby):** helpful when changing a filter or a Jetpak. Press TEMP followed by LIGHT to start mode, to exit this mode press any button.

**Sleep Mode (SLP):** heats the spa to within 20 °F (11 °C) of the set temperature during filter cycles only.

### Jets 1

Press JETS 1 to turn pump 1 on or off and to shift between low and high speeds. The low speed will turn off after 2 hours and the high speed will turn off after 15 minutes.

Low speed of pump 1 may activate for at least 2 minutes every 30 minutes to detect the spa temperature (polling) and will heat to set temperature if needed. When the low speed turns on automatically, it cannot be turned off from the control panel.

### Jets 2

Press JETS 2 to turn pump 2 on or off and to shift between low and high speeds (if a two pump system). If left running, the pump will turn off automatically after 15 minutes.

**Note:** An optional auxiliary control button on the side of the spa can activate either pump.



### Light

Press LIGHT to turn the light on or off. The light will turn off automatically after 4 hours.

### LED Light (optional)

Press LIGHT to turn on light. Press LIGHT again to shift through color options. The light will turn off automatically after 4 hours.

### Preset Filter Cycles

Press TEMP then JETS 1. Press TEMP to select the filter duration. Press JETS 1 to select the number of filter cycles. The display will show **dn** (day and night), **d** (day only), or **n** (night only). Press TEMP to adjust. Press JETS 1 to exit the program.

The pump and ozone generator\* will run during filtration. At the start of each cycle, the blower will run on highest speed for 30 seconds to clean out the air channels. The lowest speed of pump 2 will run for 5 minutes. The first filter cycle begins 6 minutes after the spa is powered up. The second filter cycle begins 12 hours later. Filter duration is programmable for 1-12 hours. The default filter time is 2 hours.

### Freeze Protection

If the temperature drops to 44°F (6.7°C) within the heater, the pump automatically activates to provide freeze protection. The pump will stay on 4 minutes after the sensor has detected the temperature has reach 45°F (7.2°C) or higher.

### Clean-Up cycle (optional)

A clean-up cycle begins 30 minutes after the pump is turned off or times out. The pump and ozone generator\* will run for 1 hour.

### \*Ozone Generator (optional)

The ozone generator runs during filter cycles (except when pump 1 is operating on high speed) and during clean-up cycles.

## Diagnostic Message

Message	Meaning	Action Required
	No message on display. Power has been cut off to the spa.	The control panel will be disabled until power returns. Spa settings are preserved until the next power-up.
<b>DHH</b>	<b>Overheat</b> - The spa has shut down. One of the sensors has detected that the spa water is 110°F (43.3°C).	<b>DO NOT ENTER THE WATER.</b> Remove the spa cover and allow water to cool. At 107°F, the spa should automatically reset. If spa does not reset, shut off the power to the spa and contact your authorized dealer or service organization.
<b>DHS</b>	<b>Overheat</b> - The spa has shut down. One of the sensors has detected that the water is 110°F (43.3°C).	<b>DO NOT ENTER THE WATER.</b> Remove the spa cover and allow water to cool. The spa will automatically reset at 107°F (41.7°C). If the spa does not reset, turn off the power to the spa and contact your authorized dealer.
<b>ICE</b>	<b>Ice</b> – Potential freeze conditions detected.	No action required. The pumps and the blower will automatically activate regardless of spa status.
<b>SnA</b>	Spa has shutdown.	The sensor plugged into sensor “A” jack is not working. The error may appear temporarily in an overheat situation and disappear once the heater cools. If the problem persists, contact your authorized dealer.
<b>SnB</b>	Spa has shutdown.	The sensor plugged into sensor “B” jack is not working. The error may appear temporarily in an overheat situation and disappear once the heater cools. If the problem persists, contact your authorized dealer.
<b>SnS</b>	Spa has shutdown.	Sensors are out of balance. If this is alternating with the temperature, it may just be temporary. If the problem persists, contact your authorized dealer.
<b>HFL</b>	A difference between the temperature sensors was detected.	This could indicate a flow problem. Check water level in spa. Refill if necessary. If the water level is acceptable, make sure the pumps have been primed. If the problem persists, contact your authorized dealer.
<b>LF</b>	Heater is shut down, but other spa functions run normally (displays on the 5 <sup>th</sup> occurrence of the <b>HFL</b> message within a 24 hour period).	Persistent low flow problems. Follow the instructions for the <b>HFL</b> message. Heating capacity of the spa will not reset automatically. Press any button to reset.
<b>dr</b>	Inadequate water detected in heater.	Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. Press any button to reset.
<b>dr4</b>	Spa is shut down (displays on the 3 <sup>rd</sup> occurrence of the <b>dr</b> message).	Inadequate water detected in the heater. Follow the actions listed for the <b>dr</b> message. The spa will not reset automatically. Press any button to reset.
<b>Pr</b>	When your spa is first actuated, it will go into Priming mode.	See the M-7 Installation Instruction Manual for complete instructions on Power-up and Pump Priming. The Priming mode will last for up to 4 minutes and then the spa will begin to heat and maintain the water temperature in the Standard mode.

- - -	Temperature not yet known.	This is normal within the first few minutes of the spa power up.
<i>Std</i>	The spa is operating in Standard mode.	Temperature display is current after pump has been running for at least 2 minutes. Press TEMP followed by LIGHT to switch modes.
<i>Ecn</i>	The spa is operating in Economy mode.	<b>Ecn</b> will appear solid on the display when the temperature is not current. <b>Ecn</b> will alternate with the temperature when the temperature is current. Press TEMP followed by LIGHT to switch modes.
<i>SE</i>	The spa is operating Standard-in-Economy mode.	Operates the same as Standard mode however, it will revert to Economy mode after 1 hour. Press TEMP followed by LIGHT to switch directly to Economy mode.
<i>SLP</i>	The spa is in Sleep mode.	Press TEMP followed by LIGHT to switch modes.
<i>Sby</i>	The spa is in Standby mode.	Press any button to exit mode and return to normal operation.
<i>PHL</i>	pH is low.	Add pH increaser per manufacturer's instructions.
<i>PHH</i>	ph is high.	Add pH decreaser per manufacturer's instructions.
<i>SAL</i>	Sanitizer is low.	Add sanitizer per manufacturer's instructions.
<i>SAH</i>	Sanitizer is high.	Remove spa cover and allow sanitizer to dissipate.

**Periodic Reminder Messages (Press MODE to reset a displayed reminder)**

<i>rPH</i>	Every 7 days	Test and adjust chemical levels per manufacturer's instructions.
<i>rSA</i>	Every 7 days	Test and adjust chemical levels per manufacturer's instructions.
<i>rEt</i>	Every 30 days	Remove, clean, and reinstall filter per manufacturer's instructions.
<i>rEG</i>	Every 30 days	Test and reset GFCI per manufacturer's instructions.
<i>rdr</i>	Every 90 days	Drain and refill spa per manufacturer's instructions.
<i>rCD</i>	Every 180 days	Clean and condition cover per manufacturer's instructions.
<i>rEr</i>	Every 180 days	Clean and condition cabinet per manufacturer's instructions.
<i>rCH</i>	Every 365 days	Install new filter.

**Warning! Shock Hazard! No User Serviceable Parts.**

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

## PREMIER CONTROL SYSTEM

**Note:** The pump responsible for heating and filtration (pump 1 low-speed) will be referred to simply as the pump.

**Timeouts** refer to a preset length of time that a function is programmed to operate before shutting off automatically. Certain conditions (filters or freeze) can cause a function to operate longer, while faults can cause a function to operate for a shorter length of time. The system keeps track of timeouts regardless of other conditions.

In multi-button sequences, if buttons are pressed too quickly they may not register.

### Initial Start-Up

When your spa is first actuated, it will begin the Priming mode. The Priming mode will last for up to 4 minutes, and then it will begin to heat. The water temperature will be maintained during the Standard mode. You can exit the Priming mode early by pressing WARMER or COOLER.

**Icon Legend**

 Heat Icon - Indicates different stages of heating.

 Jets Icon - Spins fast on high speed; spins slow on low speed.

 Light Icon



### 1. Setting the Time

Once the spa has been properly connected, notice the "Time" icon appearing on the screen.

Press  Then 

---

Select the hour by pressing  Or   
(Each press changes the time by 1 hour)



Select minutes by pressing  Or   
(Each press changes the time by 1 minute)

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Press  to exit the time setting procedure and enter the optional filter cycle programming.

Press  to exit programming.

### 2. Optional Filter Cycle Programming

You are not required to set filter cycles; however, it is an option available to you. To change the filter cycle settings: Press "Time" "Mode/Prog" "Mode/Prog" "Mode/Prog" within 3 seconds. You will see the "PROGRAM," "FILTER 1" and "START TIME" icons appear on the display. Press "Warmer" or "Cooler" to choose the filter start time hour. Enter the hour by pressing "Mode/Prog" . Press "Warmer" or "Cooler" to choose the filter start time minutes. Each press changes the start time by 5 minutes. Enter the minutes by pressing "Mode/Prog."

Press "Mode/Prog" to see the "PROGRAM," "FILTER 1" and "END TIME" icons. Adjust the time as done above. Press "Mode/Prog" to see the "PROGRAM," "FILTER 2" and "START TIME" icons. Proceed as above. Press "Mode/Prog" to see "PROGRAM," "FILTER 2" and "END TIME" icons. Adjust the time as done above. Pressing "Mode/Prog" will enter the new filter cycle times into the system and display the current water temperature.

*Pressing "Time" at any time during this programming sequence will save the values entered up to that point and exit programming.*

### Temp Set (80°F/26.0°C to 104°F/40.0°C)

The start-up temperature is set to 100°F (37.5°C). The last measured temperature is constantly displayed on the Liquid Crystal Display (LCD). **Note:** *The spa temperature displayed is only current when the pump has been running for at least 2 minutes.*

### Warmer/Cooler

Press WARMER or COOLER button once to display the set temperature. Press WARMER or COOLER to increase or decrease the temperature. After three seconds, the LCD will automatically display the last measured spa temperature.

### Time

To set the time press TIME then MODE/PROG. Use the WARMER or COOLER buttons to adjust time. Press MODE/PROG to switch to minutes. Press TIME to confirm. **Note:** *Time settings are not preserved in the event of a power loss; time will have to be reprogrammed each time.*

### Spa Modes

Press MODE/PROG to enter mode, press COOLER to cycle through modes, press MODE/PROG to confirm mode.

**Standard Mode:** maintains the desired temperature. The **STANDARD** icon will display.

**Economy Mode:** heats the spa to the set temperature only during filter cycles. Press JETS 1 while in Economy mode will put the spa in Standard-In-Economy mode (**SE**), which operates the same as Standard mode however, it will revert to Economy mode automatically after 1 hour. The **ECONOMY** icon will display.

**Standby Mode:** helpful when changing a filter or a Jetpak. Press WARMER then JETS 2 or AUX to start mode, to exit this mode press any button.

**Sleep Mode:** heats the spa to within 20 °F (11 °C) of the set temperature during filter cycles only. The **SLEEP** icon will display.

### Jets 1

Press JETS 1 to turn pump 1 on or off and to shift between low and high speeds. The low speed will turn off after 4 hours and the high speed will turn off after 30 minutes.

Low speed of pump 1 may activate for at least 2 minutes every 30 minutes to detect the spa temperature (polling) and will heat to set temperature if needed. When the low speed turns on automatically, it cannot be turned off from the control panel.

### Jets 2 (optional)

Press JETS 2 once to turn pump 2 on and off and to shift between low and high speeds. If left running, the pump will turn off after 30 minutes. **Note:** *An optional auxiliary control button on the side of the spa can activate either pump.*

### Invert

Press WARMER or COOLER followed by the OPTION button to change the direction the numbers display.

### Light

Press LIGHT to turn the light on or off. The light will turn off automatically after 4 hours.

### LED Light (optional)

Press LIGHT to turn on light. Press LIGHT again to shift through color options. The light will turn off automatically after 4 hours.

**Preset Filter Cycles**

The pump and ozone generator\* will run during filtration. At the start of each cycle, the blower will run on highest speed for 30 seconds to clean out the air channels. The lowest speed of pump 2 will run for 5 minutes.

There are two filter cycles per day. The first filter cycle will automatically activate at 8:00 a.m. and will operate for 2 hours. The second filter cycle will automatically activate at 8:00 p.m. and will operate for 2 hours.

**Freeze Protection**

If the temperature sensor detects a drop to 44°F (6.7°C) within the heater, the pump automatically activates to provide freeze protection. The pumps will turn off once the sensor have detected a temperature of 44°F (7.2°C) or higher.

**Clean-Up Cycle (optional)**

A clean-up cycle begins 30 minutes after the pump is turned off or times out. The pump and ozone generator\* will run for one hour.

**\*Ozone Generator (optional)**

The ozone generator runs during filter cycles (except when pump 1 is operating on high speed) and during clean-up cycles.

## Diagnostic Message

Message	Message	Action Required
	No message on display. Power has been cut off to the spa.	The control panel will be disabled until power returns. Spa settings are preserved until the next power-up.
<b>DHH</b>	“Overheat” - The spa has shut down. One of the sensors has detected that the spa water is 110°F (approximately 43.3°C).	<b>DO NOT ENTER THE WATER.</b> Remove the spa cover and allow water to cool. At 107°F, the spa should automatically reset. If spa does not reset, shut off the power to the spa and contact your authorized dealer or service organization.
<b>DHS</b>	“Overheat” – The spa has shut down. One of the sensor has detected that the spa is 110°F (43.3°C).	<b>DO NOT ENTER THE WATER.</b> Remove the spa cover and allow water to cool. At 107°F, the spa will automatically reset. If the spa does not reset, turn off the power to the spa and call your authorized dealer.
<b>ICE</b>	“Ice” – Potential freeze conditions detected.	No action required. The pumps and the blower will automatically activate regardless of spa status.
<b>SnA</b>	Spa is shut down.	The sensor plugged into the sensor “A” jack is not working. If the problem persists, contact your authorized dealer. The error may appear temporarily in an overheat situation and disappear once the heater cools.
<b>SnB</b>	Spa is shut down.	The sensor plugged into the sensor “B” jack is not working. If the problem persists, contact your authorized dealer. The error may appear temporarily in an overheat situation and disappear once the heater cools.
<b>Sn5</b>	Spa is shut down.	Sensors are out of balance. If this is alternating with the temperature, it may just be temporary. If the problem persists, contact your authorized dealer.
<b>HFL</b>	A difference between the temperature sensors was detected.	This could indicate a flow problem. Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. If the problem persists, contact your authorized dealer.
<b>LF</b>	Heater is shut down, but other spa functions run normally (displays on the 5 <sup>th</sup> occurrence of the HFL message within a 24 hour period).	Persistent low flow problems. Follow the actions listed for the HFL message. Heating capacity of the spa will not reset automatically. Press any button to reset.
<b>dr</b>	Inadequate water detected in heater.	Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. Press any button to reset.
<b>dr4</b>	Spa is shut down (displays on the 3 <sup>rd</sup> occurrence of the <b>dr</b> message)	Inadequate water detected in the heater. Follow the actions listed for the <b>dr</b> message. The spa will not reset automatically. Press any button to reset.
<b>Pr</b>	When your spa is first actuated, it will go into Priming mode.	See the M-7 Installation Instruction Manual for complete instructions on Power-up and Pump Priming. The Priming mode will last for up to 4 minutes and then the spa will begin to heat and maintain the water temperature in the Standard mode.
<b>- - -</b>	Temperature not yet known.	This is normal within the first few minutes of the spa power up.

<b>buF</b>	Internal problem detected.	Repair required. Contact your authorized dealer or service organization.
<b>Std</b>	The spa is operating in Standard mode.	Temperature display is current after pump has been running for at least 2 minutes. Press TEMP followed by LIGHT to switch modes.
<b>Ecn</b>	The spa is operating in Economy mode.	<b>Ecn</b> will appear solid in the display when the temperature is not current. <b>Ecn</b> will alternate with the temperature when the temperature is current. Press TEMP followed by LIGHT to switch modes.
<b>SE</b>	The spa is operating in Standard-in-Economy mode.	Operates the same as Standard mode however, it will revert to Economy mode after 1 hour. Press TEMP followed by LIGHT to switch directly to Economy mode.
<b>SLP</b>	The spa is in Sleep mode.	Press TEMP followed by LIGHT to switch modes.
<b>sb4</b>	The spa is in Standby mode.	Press any button to leave Standby mode and return to normal operation.
<b>PHL</b>	pH is low.	Add pH increaser per manufacturer's instructions.
<b>PHH</b>	pH is high.	Add pH decreaser per manufacturer's instructions.
<b>SAL</b>	Sanitizer is low.	Add sanitizer per manufacturer's instructions.
<b>SAH</b>	Sanitizer is high	Remove spa cover and allow sanitizer to dissipate.

**Periodic Reminder Messages (Press the "Mode" button to reset a displayed reminder)**

<b>rPH</b>	Every 7 days	Test and adjust chemical levels per manufacturer's instructions.
<b>rSA</b>	Every 7 days	Test and adjust chemical levels per manufacturer's instructions.
<b>rCl</b>	Every 30 days	Remove, clean, and reinstall filter per manufacturer's instructions.
<b>rEG</b>	Every 30 days	Test and reset GFCI per manufacturer's instructions. Drain and refill spa per manufacturer's instructions.
<b>rdr</b>	Every 90 days	Drain and refill spa per manufacturer's instructions.
<b>rCO</b>	Every 180 days	Clean and condition cover per manufacturer's instructions.
<b>rCr</b>	Every 180 days	Clean and condition cabinet per manufacturer's instructions.
<b>rCH</b>	Every 365 days	Install new filter.

**Warning! Shock Hazard! No User Serviceable Parts.**

Do not attempt service of this control system. Contact your authorized dealer or service organization for assistance. Follow all Owners Manual power connection instructions. Installation must be performed by a licensed Electrician and all grounding connections must be properly installed.

## JetPaks™

To identify the type of JetPak™, locate the identification number found on the backside of the JetPak (e.g. J03-63-12).

This number provides the following information:

- Style of JetPak (J03 = style number 03)
- Water Flow Rate of JetPak (63 = 63 gallons per minute)
- Number of Jets (12 = 12 jets)

## INTERCHANGING JetPaks™

1. Put the spa in Standby mode, this will prevent the pump(s) from activating (see the Operation section).
2. Remove the headrest pillow.
3. Carefully, remove the SnapCap™ (top mounting plate) by lifting upwards with your hands.
4. Push the JetPak™ forward until you have enough room to reach the two PVC water unions and air line union.
5. Disconnect the air line union.
6. Loosen the two PVC unions, pull the manifold out from in between the two water unions and remove the JetPak™ from the JetPod.
7. Exchange the JetPak™ with another JetPak™.
8. Reattach the JetPaks™ by reverse the above procedure.

**Important:** Spa models with two pumps have two different JetZones. These JetZones are divided by a JetZone divider. Never operate the spa without the JetZone divider in place. Doing so will cause serious damage to the pumps. In addition, interchanging JetPaks™ from one JetZone to another may result in improper water flow to one or more JetPaks™. If you have questions or problems, please contact your authorized Bullfrog Portable Spa dealer.



## JETTING

### Jet Types

Depending on the model, your Bullfrog Portable Spa comes with a unique combination of the following jets:

Name	Flow
Ozone Jet	Ozone system only
Cluster Jets	Small
Duo Jets	Small
Duo-Blaster Jets	Small
Micro VSR Jets	Small – medium
VSR jets	Medium – large
Storm Jets	Medium – large
Verta'ssage	Medium – large
Handheld Jets	Medium - large
Jumbo Storm Jets	Large

### INTERCHANGEABLE JETS

The Micro and Storm jets allow for after-market interchangeable jet nozzles, always contact your authorized Bullfrog Portable Spa dealer before attempting to add pump horsepower or jets to your spa.

### ADJUSTABLE JETS

To adjust the water pressure on the jets, simply turn the outer ring.

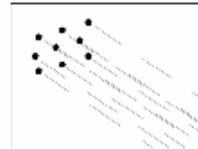
#### To Increase Jet Water Pressure

Turn the outer ring clockwise

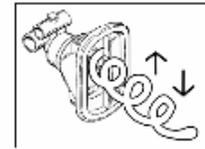
#### To Decrease Jet Water Pressure

Turn the outer ring counter-clock wise.

**Note:** The Ozone, Verta'ssage, Shower, and Duo-Blaster jets are non-adjustable. Never shut all the jets off at the same time.



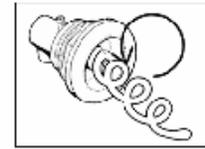
Shower Jet



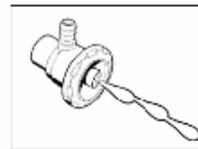
Verta'ssage Jet



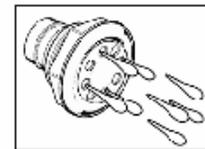
Adjustable Neck Jet



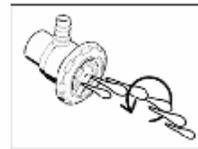
VSR Jet



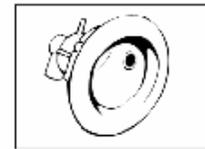
Duo Jet



Storm Jet



Duo Blaster



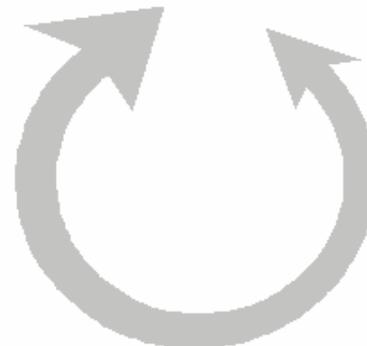
Jumbo Storm Jet



Micro VSR



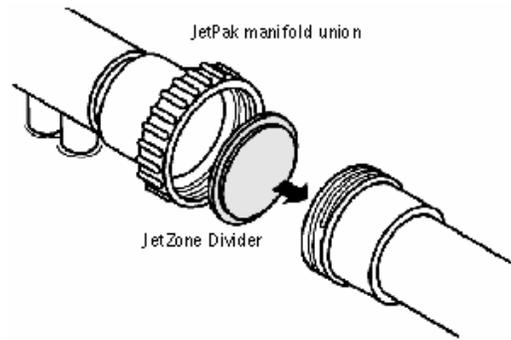
Handheld Jet



## JETZONES

Bullfrog Portable Spas powered by two pumps provide a unique feature called JetZones. A JetZone is a region of jets that are all powered by the same pump. With JetZones, you decide which JetPaks are powered by each pump. Two-pump spa, have two JetZones.

By simply moving the JetZone divider, you can either increase or decrease the number of JetPaks that are powered by a particular pump, thus creating a new JetZone. By adding JetPaks to a particular JetZone, you will decrease the power to that zone. By removing JetPaks from a particular zone, you will increase the power to that zone.



### TO CREATE A NEW JETZONE

1. Put the spa in Standby mode, this will prevent the pump) from activating (see the Operation section).
2. Remove the headrest pillow.
3. Carefully, remove the SnapCap™ (top mounting plate) by lifting upwards with your hands.
4. Push the JetPak™ forward until you have enough room to reach the two PVC water unions and air line union.
5. Disconnect the air line union.
6. Loosen the two PVC unions, pull the manifold out from in between the two water unions and remove the JetPak™ from the JetPod.
7. Remove the JetZone divider and reattach the JetPaks™ by reverse the above procedure.
8. Install the JetZone divider in a location of your choice.



**Important:** Never operate the spa without the JetZone divider in place. Doing so will cause serious damage to the pumps.

## MAINTENANCE

### WATER CHEMISTRY

Tap water that is safe to drink is not always safe for a spa. Normal tap water is usually filled with minerals and micro-contaminants that are not visible to the naked eye. Properly testing and treating your spa water is essential for the health of the spa as well as the people using it.

Proper chemical maintenance will help control and prevent the following:

- Bacteria, algae and fungi, which can spread disease and infection to humans
- Staining and scale build-up on the spa shell, equipment, and piping
- Clogged filters

**Note:** Always follow manufacturer's instructions. Use an accurate test kit to perform all chemical tests. Never mix chemicals. With the exception of Bromine tablets, add chemicals directly to the spa, evenly spreading the chemicals over the surface of the water. Run the filter pump on high speed for at least 15 minutes after applying any chemicals.

### OVERVIEW OF WATER CHEMISTRY

#### Sanitation

Sanitizers kill bacteria and keep the water clean. Effective and safe sanitizers include any of the following:

- Granular Chlorine (Dichlor)
- Granular Bromine
- Bromine tablets (use with caution and test regularly)

**Note:** Chlorine tablets must not be used in the spa. It could damage the spa and void the warranty.

#### Super Sanitation

Normal sanitation does not eliminate non-filterable wastes, such as perspiration, oils, hair sprays, etc. and will build up in the water. These substances make the water unattractive in appearance, odor, and can interfere with sanitizer effectiveness. Super sanitation is achieved by "shocking" the spa water with a non-chlorine shock (potassium peroxymonosulfate), granular chlorine (dichlor), or granular bromine.

#### pH Control

Proper pH balance is extremely important in controlling bacteria, providing water that is comfortable to the user, and preventing damage to the spa and equipment. pH is the measure of acidity and basicity in the water, the pH scale ranges from 0 – 14. pH levels under 7.0 are acidic while pH levels over 7.0 are basic. The proper pH range for a spa is 7.4 to 7.6.

**High pH levels (over 7.6):** can cause scale build-up on the spa and its equipment, cloudy water, a prematurely dirty filter, and less effective chlorine sanitation. To correct high pH levels, add a pH decriaser.

**Low pH levels (under 7.4):** can cause discomfort to the spa users and corrosion to the spa equipment. To increase pH levels, add a pH increaser.

**Note:** Never use muriatic or hydrochloric acid to adjust pH as it can damage the spa shell and surroundings.

### Total Alkalinity (TA)

The measure of carbonates and bicarbonates in the water. Low TA can cause pH to be unstable causing the water to be corrosive or scale forming to the spa and its equipment. To correct low TA, add a Total Alkalinity Increaser. High TA can cause scale build-up, cloudy water, as well as other pH problems. If the spa water has high TA, contact your authorized Bullfrog Portable Spa dealer.

### Calcium Hardness (CH)

The measure of dissolved calcium in the water. Low CH (soft water) can stain the spa surface as well as corrosion to the spa and its equipment. To correct low CH, add a Calcium Hardness Increaser. High CH (hard water) can cause cloudy water as well as rough scale build-up on the spa surface and equipment. If the spa water has high CH, contact your authorized Bullfrog Portable Spa dealer.

### Stain and Scale Control

Stain and scale problems are common in hot water environments. To help prevent and control staining and scaling, add a Stain & Scale Inhibitor.

### Foam Control

Spa water that is polluted with body oils and lotions combined with high water temperatures, can cause excessive surface foaming. For a temporary fix add a Foam Remover. The best way to control foam is to super chlorinate the water; this will destroy the soap agents that normal levels of sanitizer will not. Add 2 tablespoons per 100 gallons.

### Cloudy Water Prevention and Control

There are two basic reasons that spa water becomes cloudy. First, non-filterable liquid waste (e.g. perspiration) have contaminated the water. To remove these substances, Super Sanitize the water. Second, non-filterable micro-particulate waste (e.g. dust) has contaminated the water. To remove these substances use a Water Clarifier.

**Note:** Names of spa chemicals will vary from one manufacturer to another. Please contact your authorized Bullfrog Portable Spa dealer.

### STARTING THE SPA WITH NEW WATER

1. Add the prescribed dose of Stain and Scale Inhibitor while filling the spa. This will provide the initial protection against staining and scaling. **Note:** Do not use soft water unless the mineral content is raised immediately.
2. Once the spa is filled, add the prescribed dose of Water Clarifier. This will clear the water of any micro-particulates may be in the new water.
3. If possible, have your authorized Bullfrog Portable Spa dealer test the CH of your spa. Adjust as per your dealers recommendations.
4. Test and adjust the TA. The TA should measure 125 to 150 Parts Per Million (PPM).
5. Test and adjust the pH. The pH should measure 7.4 to 7.6.
6. After the spa water has circulated for one hour, add ½ teaspoons of Granular Chlorine or 1 teaspoon of Granular Bromine per each 200 gallons of spa water. After several hours, check sanitizer level and adjust, if necessary, to the following:

	Without Ozone	With Ozone
Chlorine Level	2.0 PPM	1.0 PPM
Bromine Level	3.0 PPM	2.0 PPM

7. Start-up water chemistry is now complete. However, it may take several days for the filter to completely clear the water.

**Important:** Unless you have ozone, do not use the spa if the sanitizer level is below 1.0 PPM.

## MAINTAINING SPA WATER

**Important:** To maintain the sanitizer level with Bromine tablets, contact your authorized Bullfrog Portable Spa dealer for assistance.

### Sanitizer and pH Levels

It is important to test and adjust the sanitizer and pH level of your spa on a frequent basis. If the spa is used 0 to 3 times weekly, we recommend that you test the water a minimum of 2 to 3 times a week. For each additional use, test the water one additional time.

Always test the pH level before you test the sanitizer level. If the pH level is not within the correct range (7.4 to 7.6), make the necessary adjustments.

With each sanitizer test use either Granular Chlorine or Bromine to maintain the following levels:

	Without Ozone	With Ozone
Chlorine Level	2.0 PPM	1.0 PPM
Bromine Level	3.0 PPM	2.0 PPM

### Super Sanitation

Super Sanitize the water once a week by adding one of the following:

- 2 teaspoons of Granular Chlorine per 200 gallons of water
- 4 teaspoons of Granular Bromine per 200 gallons of water
- 5 teaspoons of Non-Chlorine Shock per 200 gallons of water

**Note:** Super Sanitation may be required more than once per week for heavy usage. With ozone, it may not be necessary to shock the water on a weekly basis, contact your authorized Bullfrog Portable Spa dealer.

### Stain and Scale Control

Use a Stain and Scale Inhibitor per the manufacturer's instructions. Add the chemical 3 to 4 days after Super Sanitation.

### Foam Control

Use a Foam Remover per the manufacturer's instructions as needed.

### Cloudy Water Prevention and Control

Use a Water Clarifier per the manufacturer's instruction. Add the chemical 3 to 4 days after Super Sanitation.

## WATER CHEMISTRY TROUBLESHOOTING

Prior to each spa use, check the water. If the water appears cloudy, off color, significant surface foam, or smells of chlorine/bromine, the water needs to be treated or drained. Using the spa in these conditions could result in a skin rash or other irritations.

For assistance in handling spa water chemistry, contact your authorized Bullfrog Portable Spa dealer or another service center capable of performing Computerized Water analysis.

## CHANGING YOUR SPA WATER

Depending upon usage, the spa water will need to be changing every 2 to 4 months or when the water becomes difficult to manage. **Note:** *Drain r to an area that can handle a large quantity of water. If draining water onto vegetation, make sure that the sanitizer level (chlorine or bromine level) of the water is less than .5 PPM.*

### Steps to Drain Spa (Conventional Method):

1. Disconnect electrical power supply.
2. Remove equipment compartment door.
3. Locate the drain hose.
4. Lift drain hose higher than water level.
5. Remove drain hose cap.
6. Connect a garden hose to the drain hose.
7. Lower to ground level and drain.
8. Clean spa shell.



### Steps to Drain Spa (PowerDrain™ with 50' of drain hose):

Items needed: 1 to 2 JetZone dividers

1. Place the spa in Standby mode.
2. Remove the first JetPak on the left side, nearest the filter assembly.
3. Remove filter(s) from the filter-housing unit.
4. Install the PowerDrain™ unit on the water output side; enter the first JetPak recess (the fitting closest to the control panel).
5. Direct the drain hose to the drain area.
6. Press JETS 1 to start low speed (water output volume can be controlled by using the supplied gate valve).
7. Place the JetZone divider(s) in the filter-housing, block off the flow at the bottom of the filter. This will allow the spa to drain down to the level of the intake suction.
8. It will take 5 to 9 minutes at full volume on low speed to drain completely.

### Steps to Refill Spa:

1. Remove garden hose from drain hose.
2. Replace drain hose cap.
3. Reattach the equipment compartment door.
4. Refill the spa with tap water. Fill to the water level indication on the faceplate of the filter assembly.
5. Restore electrical power supply.
6. Press any button to reset the control system

**Note:** *To avoid air pockets in the pumps and in the main plumbing intake, fill the spa through the filter assembly. The higher the water level, the fewer users it will be able to handle. Also, do not fill the spa with soft water unless the mineral content is raised immediately; contact your authorized Bullfrog Portable Spa dealer.*

## CLEANING FILTER

It is recommended that the filter cartridge(s) be cleaned every 3 to 6 weeks or as needed. Replace the filter cartridge(s) every 2 years or when necessary. To maintain warranty protection, use only Bullfrog Filter Cartridge replacements.

1. Place the spa in Standby mode.
2. Remove skimmer faceplate and basket.
3. Remove cartridge(s).
4. Using a garden hose with a nozzle or other high-pressure device, clean cartridge(s). Work top to bottom on each plate.
  - a. To remove collected suntan lotions and body oils soak cartridge(s) in warm water with Filter Cleaner or detergent.
  - b. To remove calcium deposits, soak cartridge(s) in a plastic container using one part muriatic acid to ten parts water solution. Calcium deposits indicate a high spa pH, which should be corrected.
5. Reinstall cartridge(s), basket, and skimmer faceplate.
6. Press any button to reset the control system.

**Important:** Using a brush to clean a cartridge could cause damage. Bullfrog's SpinClean™ filter cartridge cleaners may be used and can be obtained from your authorized Bullfrog Portable Spa dealer.



## LIGHT BULB REPLACEMENT

To replace a burned out or defective light bulb, complete the following:

1. Disconnect electrical power supply.
2. Remove equipment compartment door.
3. Locate the back of the light fixture.
4. Grasp the light bulb holder (located on the back of the light fixture).
5. Twist counter-clockwise to release light from fixture.
6. Pull light bulb holder out of the fixture.
7. Replace light bulb and reinstall light fixture.
8. Replace equipment compartment door.
9. Restore electrical power supply.



**Note:** For alternate lighting systems, contact your authorized Bullfrog Portable Spa dealer.

## OZONE STERILIZER REPLACEMENT

On front of the Ozone Sterilizer (optional) is the indicator light. To verify that the Ozone Sterilizer is working properly, check the indicator light while the filter pump is running. The Ozone Sterilizer will shut down for 30 minutes after the JETS button has been pressed.

If the indicator light does not glow while the filter pump is running, follow these steps:

1. Disconnect electrical power supply.
2. Locate and unplug the Ozone Sterilizer from the control center.
3. Disconnect the output tubing from the Ozone Sterilizer.
4. Remove the mounting screws that hold the Ozone Sterilizer in place.
5. Take the entire Ozone Sterilizer to your authorized Bullfrog Portable Spa dealer. The unit will be checked to verify that it is defective. If not, request a service call.
6. Reinstall the Ozone Sterilizer by reverse the above procedure.



## SPA SHELL CARE

### Aristech® Spa Surfaces

For normal cleaning, use Ivory® liquid dishwashing soap or its equivalent. For stubborn stains, use Spic & Span® in powder form or its equivalent. To apply these cleaners, use a soft, damp cloth or sponge. Rinse well and dry with a clean cloth.

### General Cleaning

With normal use of the spa, oils, lotions, and hairspray will build up on the surface of the water. This will leave a scum line around the perimeter; it can be easily removed using Surface Cleaner or its equivalent.

To remove grease, oil, paint, or ink stains use 25% isopropyl alcohol in water.

To clean hard water stains, remove light scratches and/or protect your spa shell, contact your authorized Bullfrog Portable Spa dealer. **Note:** *Never allow your spa surface to be exposed to acetone (nail polish remover), nail polish, dry cleaning solution, lacquer thinners, gasoline, pine oil, abrasive cleaners, or any other harsh chemical. These chemicals can void the warranty. Avoid using cleaning agents that leave suds in the water. Be sure to clean the JetPaks and the JetPods twice a year.*

## SPA CABINET CARE

The Eternawood cabinet components are made to provide many years of maintenance free service. For normal cleaning, use Ivory® liquid dishwashing soap or its equivalent. For stubborn stains, contact your authorized Bullfrog Portable Spa dealer.

## SPA COVER CARE

Your spa cover is warranted by its manufacturer, Sunstar Enterprises, 127 No. Las Posas, San Marcos, CA 92069 (Phone: 760-744-2172). Although basic instructions are provided below, it is important that you refer to the Sunstar information that came with the cover. Sunstar provides detailed information on caring for your spa cover and what to do to protect its warranty.

On a monthly basis, complete the following:

1. Remove the cover and lay it down on a flat, clean surface near a garden hose.
2. Rinse the cover to remove any loose debris.
3. Clean the top (vinyl) of the cover with a mild solution of dishwashing soap and a soft bristle brush. Using a gentle circular motion, scrub the cover, careful to not let any of the cover dry before rinsing with water.
4. Rinse the cover thoroughly and dry with a clean cloth.
5. Use saddle soap (never Armorall®) to condition the cover per the manufacturer's instructions.
6. Wipe and rinse any dirt from the bottom of the cover.
7. Replace the cover and secure the locks.

**Note:** *To remove tree sap, use lighter fluid (the type used in cigarette lighters). Use sparingly. Immediately apply saddle soap to the area.*

## MISCELLANEOUS CARE

### Cleaning and Protecting the Headrest

Clean on a regular basis with soap, water, and use a clean cloth. Use Armorall® Protectant or its equivalent once per month. This will maintain water resistance and luster of the product.

### Vacuum the Spa

Debris from wind, trees, and users will occasionally accumulate on the bottom of the spa. The filtration system will remove the smaller debris however debris that is too large or heavy will have to be removed by a spa vacuum. If you do not have a spa vacuum, contact your authorized Bullfrog Portable Spa dealer.

### Cleaning the Scum line

Oils, lotions, and hairspray will build up on the water surface, sometimes leaving a scum line around the perimeter. This scum line can easily be removed with a spa Surface Cleaner or its equivalent. Contact your authorized Bullfrog Portable Spa dealer for product. **Note:** Avoid using cleaning agents that will leave suds in the water.

## LOW USE OR NO USE PERIODS

Certain times of the year, you may not use the spa as often as expected. For these low or no use periods, we recommend the following:

### Low Use

If the spa is being used less than once per month, we recommend lowering the temperature by 5 -10°F or place in Economy mode. Lowering the temperature will cut the cost of operation however; you will need to adjust the temperature setting 15 minutes before each use in order to heat the spa accordingly.

### 1 to 2 Weeks without Use

We recommend that you do not make any changes. Reducing the water temperature for short periods has proven to increase heating costs.

### 2 to 6 Weeks without Use

We recommend that you lower the temperature to 80°F.

### Over 6 Weeks without Use

We recommend that the spa be winterized. To winterize follow these steps:

1. Drain the water.
2. Remove the drain plug from the pump(s), loosen all PVC pipe unions, and pump air bleed valves in the equipment compartment.
3. Clean the entire spa.
4. Remove filter cartridge(s) and clean. Allow filter to dry fully and store in a dry place.
5. Secure cover.

**Note:** During periods of No Use, we recommend testing and chemically treating the water once per week. Not doing so may lead to corrosion, staining, and/or scaling to the spa and its equipment. If the water cannot be treated, we recommend winterization.

## SPA DE-WINTERIZATION

To de-winterize the spa reverse the above procedure. Refill to the water level mark.

## **SERVICE**

Before requesting service from your dealer, refer to the Troubleshooting Guide to determine the necessary course of action. If the problem cannot be solved using the Troubleshooting section, contact your authorized Bullfrog Portable Spa dealer.

### **WARRANTY SERVICE**

If the spa falls within the warranty period and within the scope of the warranty, contact your authorized Bullfrog Portable Spa dealer to schedule a service call. You will be required to show proof of purchase.

**Note:** *Damage caused by repairs made by someone other than an authorized Bullfrog Portable Spa technician will not be covered by the warranty.*

### **NON-WARRANTY SERVICE**

An authorized Bullfrog Portable Spa technician should perform all repairs that fall outside of the warranty coverage or beyond the warranty period. If you are not able to use an authorized technician, we encourage you to use genuine Bullfrog replacement parts.

#### **Bullfrog International L.C.**

668 W 14600 So.  
Bluffdale, UT 84065

Phone: 801-565-8111

E-mail: [info@bullfrogspas.com](mailto:info@bullfrogspas.com)

## **TROUBLESHOOTING GUIDE**

This guide will assist in solving simple problems with the spa. If the problem cannot be solved using these procedures, contact your authorized Bullfrog Portable Spa dealer.

### **Control panel displays an error message:**

**Cause:** An error has occurred.

**Solution:** See "Diagnostic Messages" for the particular Control System.

### **Control pad and spa equipment do not operate:**

**Cause #1:** No electrical power to spa.

**Solution:** Turn on or reset the GFCI circuit breaker. If this does not solve the problem, have a qualified Electrician check the electrical service.

**Cause #2:** The 20 or 30 AMP fuse, depending on the system, has blown.

**Solution:** Contact your authorized Bullfrog Portable Spa dealer.

### **GFCI breaker trips repeatedly:**

**Cause #1:** Improper wiring to spa or GFCI breaker is defective.

**Solution:** Consult with a qualified Electrician.

**Cause #2:** There is a defective component on the spa.

**Solution:** Contact your authorized Bullfrog Portable Spa dealer.

### **Spa pump turns off during operation:**

**Cause #1:** Automatic timer has completed its 30 or 120 minute cycle.

**Solution:** Turn on the pump.

**Cause #2:** Pump has overheated due to the vents on the equipment door being blocked.

**Solution:** Clear items away from vents.

**Cause #3:** The pump motor is defective.

**Solution:** Contact your authorized Bullfrog Portable Spa dealer.

### **Spa will not heat:**

**Cause #1:** Slice valve is partially or fully closed.

**Solution:** Open slice valve and secure with valve keeper.

**Cause #2:** Thermostat has been turned down.

**Solution:** Adjust thermostat to desired temperature.

**Cause #3:** High limit sensor has tripped.

**Solution:** Press any button to reset.

**Cause #4:** Heating system is defective.

**Solution:** Contact your authorized Bullfrog Portable Spa dealer.

**Spa light does not work:**

**Cause #1:** Light bulb has burned out.

**Solution:** Replace light bulb.

**Cause #2:** Lighting system is defective.

**Solution:** Contact your authorized Bullfrog Portable Spa dealer.

**Spa pump will not turn on, creates a burning smell while running, or makes excessive noise while running:**

**Cause:** Pump motor is defective.

**Solution:** Contact your authorized Bullfrog Portable Spa dealer.

**Jets surge on and off:**

**Cause:** Water level is too low.

**Solution:** Adjust water to the water level indication on the faceplate of the filter assembly.

**Jets are weaker than normal or do not work at all, but the pump is running:**

**Cause #1:** Jet handle(s) are partially or fully closed.

**Solution:** Open jet handle(s).

**Cause #2:** Filter cartridge is dirty.

**Solution:** See "Cleaning the Filter".

**Cause #3:** There is air trapped in the spa equipment or its face piping.

**Solution:** Open the air bleed valve on each pumps housing and allow air to bleed out of the system.  
Be sure to tighten each air bleed valve as soon as water starts to flow.

**Cause #4:** The suction fitting(s) are blocked.

**Solution:** Remove any debris that may be blocking the suction fitting(s).

**Cause #5:** The JetZone divider is not installed (if applicable).

**Solution:** Re-install in the appropriate JetPak.

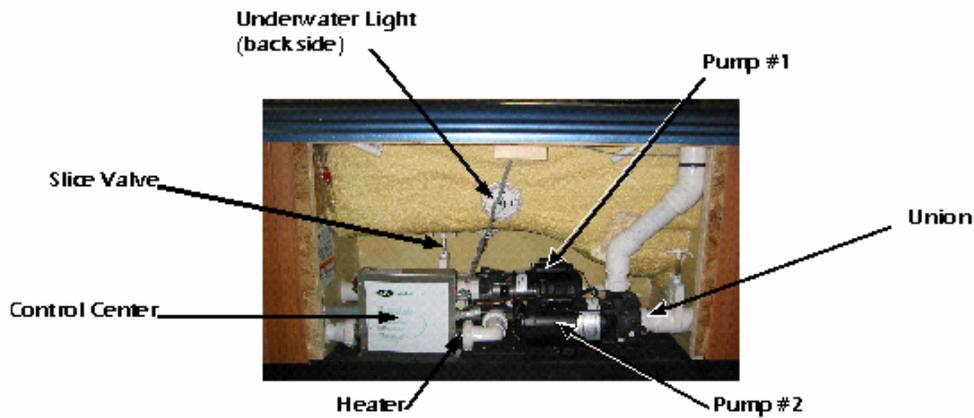
**Note:** *Running the spa without a JetZone, divider can cause serious damage to the pumps.*

**Cause #6:** Slice valve is closed.

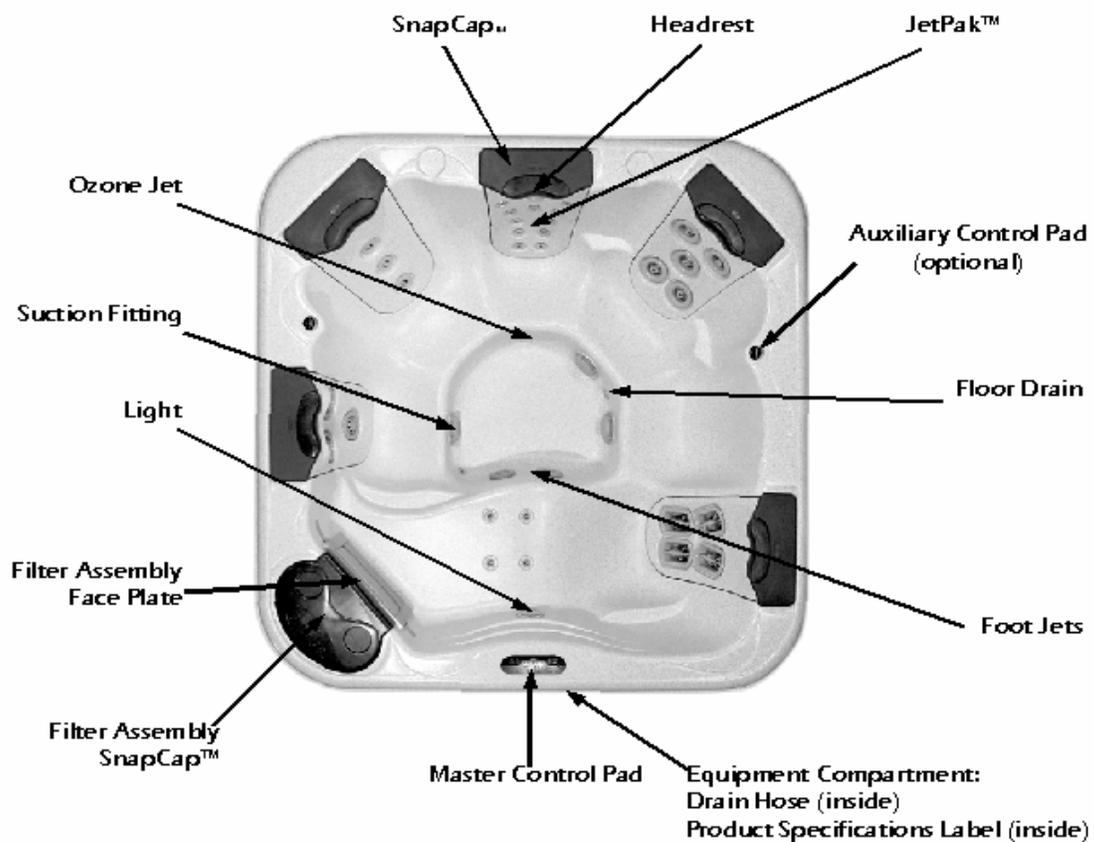
**Solution:** Open valve and secure with valve keeper.

# PARTS IDENTIFICATION DIAGRAMS

## Inside Equipment Compartment



## Top View of Spa (Model 562 Shown)



**Notes:**



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**Bullfrog International, L.C.**

668 West 14600 South • Bluffdale, Utah 84065  
801-565-8111 • Fax: 801-565-8333

Website: <http://www.bullfrogspas.com/>  
E-mail: [info@bullfrogspas.com](mailto:info@bullfrogspas.com)