

# 2001 Owner's Manual

USA and Canada

## *Pneumatic Series*

*1100 Electronic Series*

*2100 Electronic Series*

*2200 Electronic Series*

*2300 Electronic Series*

Duplication without written consent is strictly prohibited.

This Owner's Manual is for spas manufactured after December 8, 2000.

Revised June 25, 2001

Due to our continuous improvement program, all models, operation, and/or specifications are subject to change without prior notice.

# Welcome

## To The Cal Spas Family

Congratulations on the purchase of your new Cal Spa. Welcome to our family. You can feel confident knowing that you have purchased the most technologically advanced spa in the industry. Your new spa is backed by the worldwide recognized name in value, reliability, and customer service, Cal Spas.

### **Customer Information:**

We want to learn more about you. After reading this manual, please complete and submit the attached Customer Survey and Warranty Registration Card. Your feedback will be used to help us serve you, our valued customer better, and register your spa for it's warranty.

### **Cal Spas Information:**

Cal Spas has been manufacturing spas since 1979, and is considered a pioneer and innovator in the industry. Through our State-of-the-Art manufacturing facility in Pomona, California, we manufacture not only the best quality spas, but also an entire line of home resort products. Those products include, but are not limited to gazebos, redwood decking and surround packages, billiard tables and accessories, saunas, jetted bathtubs, and much more. Cal Spas is devoted to bringing you a total environment of peace, tranquility, and pure enjoyment with our extensive line of Home Resort Products.

Our exclusive product line features GE Motors, XL Heater, Cal Zone Quest 2000™ Ozonator, Spa Cal Filtration, and our True Blue™ Safety Suction Shutdown System. These features not only set Cal Spas apart from the competition, they also ensure that our customers receive incredible value, performance, and a lifetime of enjoyment. In addition, all of our spas have earned the Underwriters Laboratories® seal of approval. You can rest assured you have invested in a product that is safe and made of the highest quality. For the aforementioned reasons we can proudly say, Cal Spas, "It's the Logical Choice".

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# 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

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

All 110 volt spas require a **DEDICATED 20 AMP SERVICE**. Do not use extension cords. Note: This may require a licensed electrician to upgrade your standard receptacle and /or circuit breaker.

All 220 volt spas require a **DEDICATED 50 AMP GFCI SERVICE WITH FOUR # 6 AWG COPPER WIRES**.

**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 unless they are closely supervised at all times (Keep spa cover on when not in use).

**DANGER-RISK OF INJURY:** The suction fittings in this spa are sized to match the specific water flow created by the pump. Should the need arise to replace the suction fittings or the pump, be sure that the flow rates are compatible.

**DANGER-RISK OF INJURY:** Never operate spa if the suction fittings or filter baskets are broken or missing.

**DANGER-RISK OF INJURY:** Never replace suction fitting with one rated less than the flow rate marked on the original suction fitting.

**DANGER-RISK OF ELECTRIC SHOCK:** Install at least 5 feet (1.5m) from all metal surfaces. As an alternative, a spa may be installed within 5 feet of metal surfaces if each metal surface is permanently bonded by a minimum No. 8 AWG solid copper conductor to the outside of the spas control box.

**DANGER-RISK OF ELECTRICAL SHOCK:** Do not permit any electrical appliance, such as a light, telephone, radio, or televisions, within 5 feet (1.5m) of spa. Never attempt to operate any electrical device from inside the spa.

## Important Safety Instructions (Continued)

### WARNING - RISK OF INJURY

- a.) Before entering a spa, the user should measure the water temperature with an accurate thermometer, since the tolerance of water temperature-regulating devices varies.
- b.) The spa water should never exceed 104°F (40°C). Water temperatures between 100°F (38°C) and 104°F (40°C) are considered safe for a healthy adult. Lower water temperatures are recommend for young children, and when spa use exceeds 10 minutes.
- c.) Since excessive water temperatures have a high potential for causing fetal damage during early months of pregnancy, pregnant or possibly pregnant women should always check with a physician prior to spa usage.
- d.) The use of alcohol, drugs or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
- e.) 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 prior to spa usage.
- f.) Persons using medications should consult a physician before using a spa, since some medication may induce drowsiness while other medication may affect heart rate, blood pressure and circulation.

### HYPOTHERMIA

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

#### Symptoms of Hypothermia Include:

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

#### The Effects of Hypothermia Include:

- Unawareness of impending hazards
- Failure to perceive the need to exit the spa
- Physical inability to exit the spa
- Fetal damage in a pregnant women
- Unconsciousness resulting in the possibility of drowning

**WARNING:** The use of alcohol, drugs or medication can greatly increase the risk of fatal hypothermia.

**Save These Instructions**

# Basic Spa Information

Your new Cal Spa has been engineered with a high-powered water pump that pushes water through various therapy jets which will relax even the tightest of muscles. In addition to the water pressure, you can add air into the spa water with air venturies or the optional turbo feature, to increase the intensity of your massage.

Do not be afraid to push buttons or turn knobs to learn about your new Cal Spa, as it is built with quality materials and excellent craftsmanship.

The following operating and maintenance instructions are very important and must be followed carefully. With the proper care and maintenance, your Cal Spa will provide you with years of satisfaction and performance with minimal effort.

The filtering of your spa is very important, this alone will cut down cleaning time and use of excess chemicals. We recommend that your spa filters no less than four hours twice a day. Electronically controlled spas will automatically do this when you turn them on for the first time.

It is very important to keep the spa covered when not in use for two reasons. The first is heating efficiency; covered spas use less electricity in maintaining your set temperature. The second is to protect your spas finish from the suns ultraviolet rays. Covering your spa is mandatory to maintain warranty coverage.

Your spas optional turbo feature should be used sparingly. When operating the turbo, water temperature drops quite rapidly and can also dissipate chemicals.

The filter needs to be cleaned on a regular basis. This is very simple and only takes a few minutes. The result is increased water clarity and equipment longevity. See pages 14 and 15 for filter cleaning instructions

The spa water level is very important to the operation of your spa. If the water level is too low or too high, your spa won't run or clean properly. The water level should be to the middle of the "Skimmer Area" when no one is in the water.

We recommend that your spa water be changed every 4 to 6 months. You may find the need to change your spa water more often with heavy use.

When empty, your spa should be cleaned with a non-abrasive cleaner then rinsed thoroughly.

When filling your spa, always fill through the top-load filter. Only use regular tap water. **DO NOT USE SOFT WATER.**

When draining your spa, turn off the power to the spa and attach a garden hose to the hose bib fixture located on the floor of the equipment area.

Spas built in the winter months may be delivered with the bleeder valves removed from the pumps and taped inside the control box. We remove the bleeder valves after water testing at the factory to prevent possible freeze damage during shipping. Prior to filling your spa for the first time, make sure you replace the air bleeder valves and check the equipment area for any unions that might have loosened during shipment.

In addition to your portable spas redwood skirt, you may have purchased a gazebo, cabana, steps or any other redwood accessory. We recommend that you protect them by applying a high quality redwood protectant, and repeat as specified in the directions. This is mandatory to maintain warranty coverage.

# Quick Reference Information

## Set Up and Delivery:

### Electrical:

- 1.) 110-volt spas will require a 20 amp dedicated receptacle.
- 2.) 220-volt spas will require a 50 amp dedicated GFCI breaker.
- 3.) See Pages 8 through 10 for more information.

## Surface and Pad Requirements for Spas and Gazebos:

- 1.) Your new portable spa and or gazebo must be placed on a uniformly firm, flat and level concrete pad.  
We recommend a 3-1/2" thick slab.
- 2.) See Page 7 for more information

## General Start-up Information:

### Portable Spas:

- 1.) Once your spa is placed on an approved surface and is connected to the correct electrical service, inspect all plumbing connections in the equipment area of your spa. These connections may have loosened during shipment.
- 2.) If equipped, open all gate valves or slice valves in the equipment area.  
Note: When operating the spa, these valves must be in the up or open position.
- 3.) Install filter cartridge into filter housing.
- 4.) To fill spa, place a garden hose into the skimmer area of the spa. Fill spa up to the "Water Level" line or half way up the skimmer area.
- 5.) Open the air relief valve, located in the skimmer area of most system spas. On all other spas, use the air relief valve located on the front of the pump housing in the equipment area.
- 6.) After the air bubbles stop coming out of the air relief valve, tighten valve until closed (Do not over tighten).
- 7.) Once water level is correct, turn on the spa's power at the GFCI breaker (220-Volt Spas). 110-Volt spas must be connected to the proper 20 Amp electrical service.
- 8.) The spa will perform a diagnostic check and power up in 30 seconds.
- 9.) All electronically controlled spas will default to 100°F and filter for four (4) hours twice a day.
- 10.) Pneumatic spas in Freeze Protection Mode will operate and heat to the manual setting (the temperature where the thermostat is set). See Pneumatic Operating instructions on pages 21-22 for more information.
- 11.) The spa is now ready for use.

## Filter Cycle Set-up Information:

### Start-up

- 1.) All electronically controlled spas will default to filter cycle mode "F4". This represents four (4) hours of filtration time every twelve (12) hours.
- 2.) Filter cycles are started when the spa is powered up for the first time or any time the power is reset. i.e. the GFCI is tripped and reset, or there is a temporary power outage.
- 3.) Filtration Settings and Recommendations:
  - a. F2 = Two (2) hours of filtration every twelve (12) hours. This setting is for occasional spa usage.  
No more than two (2) hours of usage in seven (7) days.
  - b. F4 = Four (4) hours of filtration every twelve (12) hours. This setting is for light spa usage.  
No more than four (4) hours of usage in seven (7) days.
  - c. F6 = Six (6) hours of filtration every twelve (12) hours. This setting is for normal spa usage.  
No more than four (6) hours of usage in seven (7) days.
  - d. F8 = Eight (8) hours of filtration every twelve (12) hours. This setting is for heavy usage.  
No more than four (8) hours of usage in seven (7) days.  
Note: This setting is only to be used with the "Spa Cal Filtration System"
  - e. FC = Filter Continuous (24) hours of filtration. This setting is for maximum spa usage.  
Note: This setting is only to be used with the "Spa Cal Filtration System"

## Quick Reference Information (Continued)

4. To set the filtration cycles, use the following information:

- a. 1100 Depress the TEMP pad, followed by the JETS. Each additional press of the TEMP pad will increase the filtration time.
- b. 2100 Depress the TEMP pad, followed by the JETS. Each additional press of the TEMP pad will increase the filtration time.
- c. 2200 Depress either Up or Down followed by either the JETS 1 or JETS 2. Each additional press of the Up or Down pad will increase or decrease the filtration time.
- d. 2300 Depress either Up or Down followed by either the JETS 1 or JETS 2. Each additional press of the Up or Down pad will increase or decrease the filtration time.

### General Chemical Maintenance Information: (500-Gallon Spa)

#### Start-up:

- a. Add 3 oz. of "Iron Out" or 16 oz. of "Metal Protector".
- b. Add 2 oz. of "Sodium Bromide".
- c. Add 2 oz. of "Oxidizer Shock".
- d. Add 3 to 4 Bromine tablets to a "mostly" closed floater.

Note: Do not place bromine tablets in skimmer basket.

#### Weekly:

1. Test spa water with test strips for the following items twice a week:

- a. Bromine: Acceptable Range without a Cal Zone Ozonator is between Three (3) to Five (5).
- b. Bromine: Acceptable Range with a Cal Zone Ozonator is between One (1) to Three (3).
- c. Chlorine: Acceptable Range without a Cal Zone Ozonator is between Three (3) to Five (5).
- d. Chlorine: Acceptable Range with a Cal Zone Ozonator is between One (1) to Three (3).
- e. pH acceptable Range is between 7.2 to 7.8 P.P.M
- f. Alkalinity: Acceptable Range is between 80 to 120 P.P.M

2. Add one to two bromine tablets. Usage varies with water temperature and bather loads.

3. Add 2 oz. of "Oxidizing Shock". Always follow directions on the container.  
(Do not use chlorinating shock.)

4. Add 2 oz. "Stain & Scale Defense" or 3 oz. of "Iron Out" as directed on the container.

5. Add "pH Up", if needed. Always follow directions on the container.

6. Add "Alkalinity Up", if needed. Always follow directions on the container.

7. Add "pH Down", if needed. Always follow directions on the container.

#### BI-Weekly:

1. Follow the weekly instructions, and the following.

2. Clean the filter cartridge. (See the "Filter Maintenance" section on pages 14 and 15)

3. Visually inspect the equipment area for the following:

- a. Equipment area is clean. (Cabinet vents are unobstructed)
- b. Ozonator operation. (Ozonator only operates during filtration cycles)
- c. Pumps, Plumbing, Air Blowers, Unions, Gate valves, and Ozone check valves for leakage.

Note: Component failure as a result of leaks not promptly reported will void the warranty.

#### Important Chemical Notice

Before the use of any chemicals, C.A.I. recommends all spa users to consult with their physician for possible allergic reactions to the corresponding chemicals. C.A.I. also recommends consulting with your local Cal Spas Dealer for a chemical program that is best suited for your local water condition, climate and usage habits.



# Set-Up and Delivery Instructions

## Getting Ready for Delivery and Set-up of Your New Cal Spa

### Planning For Delivery of Your Portable Spa:

- a. Your 110-Volt spa will require a 20 amp dedicated receptacle.
- b. Your 220-volt spa will require a 50 amp dedicated GFCI circuit breaker.
- c. If you have any doubts, have your electrical system checked by a qualified, licensed electrician.

### Surface and Pad Requirements for Spas and Gazebos:

- a. Your new portable spa and /or gazebo must be placed on a uniformly firm, flat and level concrete pad. We require a 3-1/2" thick cement slab. Gazebos assembled on surfaces either not flat or level will result in windows and doors closing improperly.
- b. If the location of your spa is going to be near a sprinkler system, make sure you adjust the sprinkler heads away from the spa and or Gazebo. As water continually sprayed on the spa cabinet or in the equipment area may cause wood or electrical component damage.

### Requirements for Decking, Gates and Balconies:

- a. All decking must be able to support 150 pounds per square foot.
- b. Surrounding area gates must be self-closing and self-latching (California Requirements).
- c. Balconies must be constructed to current state and local codes. (Spa load requirements are 150 pounds per square foot)

### Planning for Delivery of Your In-ground Spa:

- a. Selecting the right site for the installation of your in-ground spa and equipment is very important. These sites should be city and state approved, also considering the ease of access, landscaping, and architectural styling.

### The delivery crew will need the following list of information prior to delivery of your spa:

- a. Clearance through gates, around gas meters, fireplace, air conditioners or other obstacles.
- b. Measure the height between ground and lowest point of roof eaves.  
*External Equipment:*
- c. Measure the distance between the spa and equipment. (Including turns and obstacles)  
*Inground Spas:*
- d. Finished height of spa lip. (From ground to bottom of lip)

## **IMPORTANT**

ALWAYS HAVE A LICENSED CONTRACTOR /ELECTRICIAN INSTALL ALL EQUIPMENT.  
ALWAYS WATER TEST YOUR NEW IN-GROUND SPA FOR FIVE DAYS BEFORE COMPLETING ANY  
DECKING OR FINISH WORK.

DO NOT PLACE EQUIPMENT MORE THAN 20 FEET FROM SPA.  
DO NOT INSTALL EQUIPMENT HIGHER THAN SIX INCHES ABOVE WATER LEVEL, OR LOWER THAN  
THE BOTTOM OF THE SPA.

LEAVE ALL TRENCHES OPEN FOR FINAL INSPECTION BY YOUR LOCAL INSPECTOR.

# 110 Volt Installation Information

**Always Follow Applicable Local, State and Federal Codes and Guidelines.**

1. Use only a dedicated electrical line with a 20-amp breaker.
2. Do not use an extension cord.
3. Always use a weatherproof/covered receptacle.
4. Never have your spa closer than 10 feet to the receptacle.
5. Do not bury the power cord.
6. A damaged cord must be replaced before next usage.
7. All 110-volt spas include a GFCI plug. This GFCI plug should be tested prior to every use.

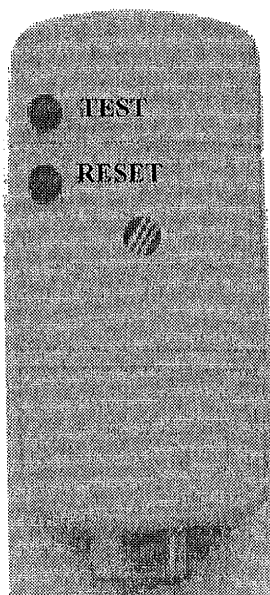
## **To test the GFCI, please follow these easy instructions:**

Note: Spa should be already plugged in and operational.

1. Press the button marked "Test" on the GFCI. The GFCI will trip and the spa will stop operating
2. Press the button marked "Reset" on the GFCI. The GFCI will reset and the spa will turn back on in about 5 seconds.
3. The spa is now safe to use.

If the GFCI should turn off (trip) while the spa is in use, press the reset button. If the GFCI will not reset, unplug the GFCI and call your local Showroom/Dealership for service. DO NOT USE SPA.

## **110 Volt / 20 Amp GFCI Plug**



# 220 Volt Installation Information

All 220-volt spas are required to have a GFCI breaker and should only be wired by a licensed electrician. To ensure proper wiring of your GFCI, please follow the wiring diagram on page 9.

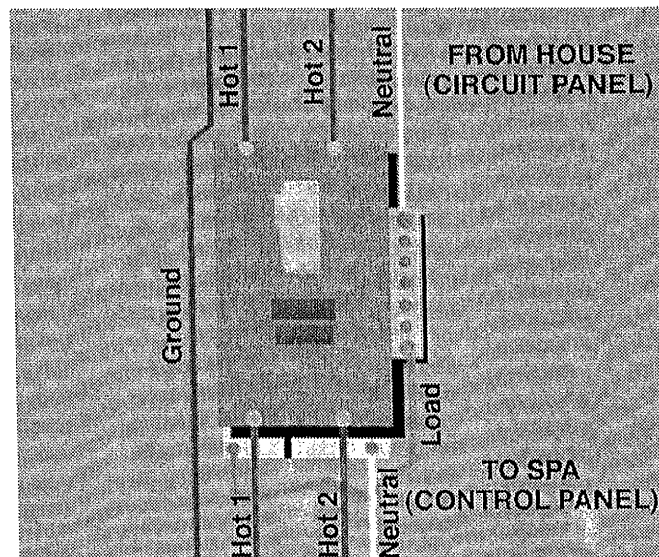
1. Always Follow Applicable Local, State and Federal Codes and Guidelines.
2. Your new 220 volt CAL SPA requires a DEDICATED 50 AMP GFCI SERVICE WITH FOUR # 6 AWG COPPER WIRES.  
This will include a black and red wire for your incoming power, a white wire used for your neutral and a green wire for your ground.  
**Note:** #6 AWG wire acceptable on wire run up to 100'. Wire run over 100' must increase wire to # 4 AWG.
3. Please note that this is the only acceptable electrical wiring procedure. Spas wired in any other way will void your warranty.

Before each use of your spa you should check the GFCI. During this test the spa should be operational.

1. Press the test button on the GFCI. The GFCI will trip and the spa will shut off.
2. Wait 30 seconds and reset the GFCI breaker. This is done by turning the breaker off and then back on.  
Your spa will be operational in about 5 seconds.
3. Your spa is now safe to use.

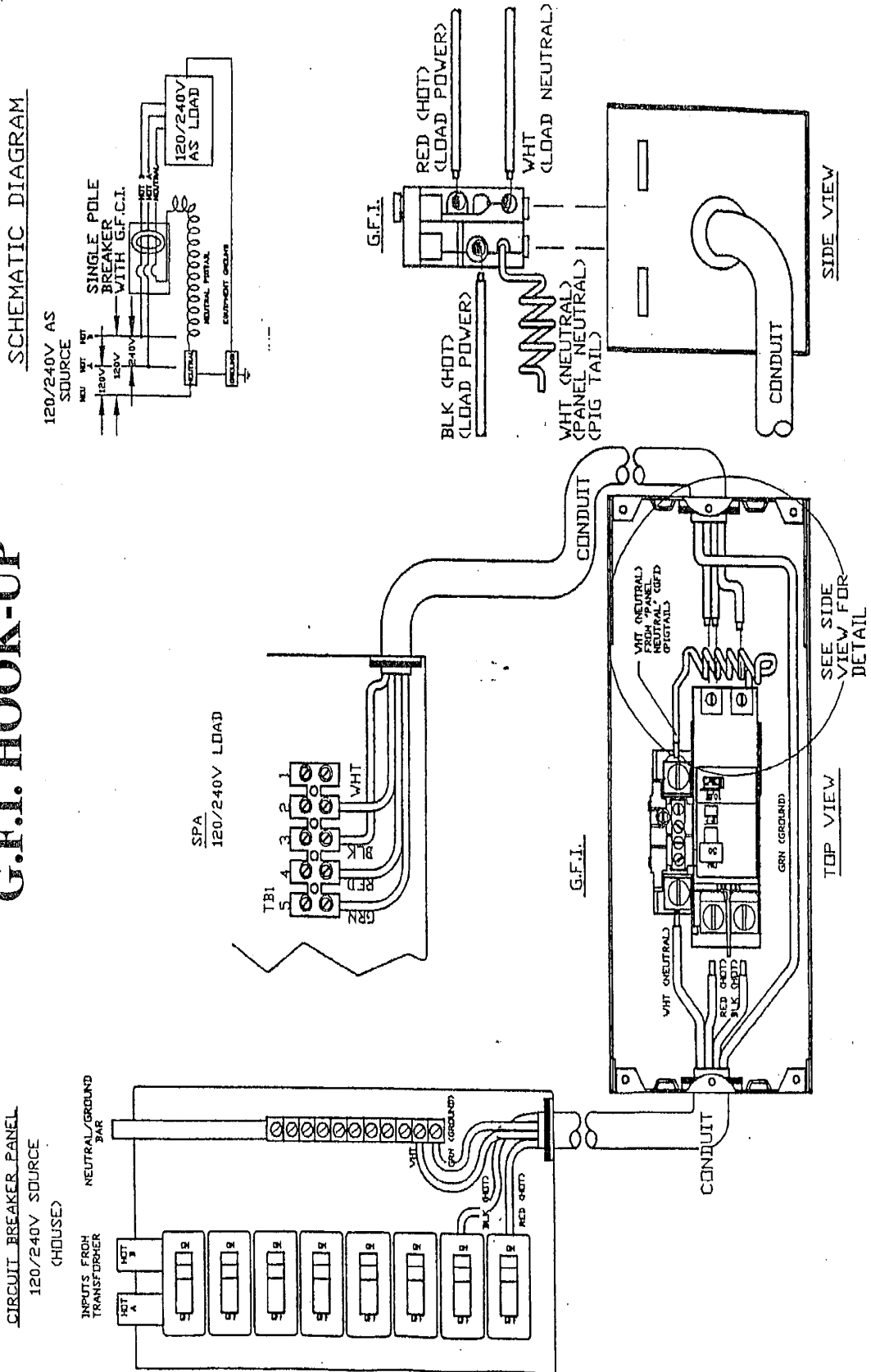


## G.F.C. HOOK-UP



# G.F.I. Hook-Up

## G.F.I. HOOK-UP



# Starting Up Your Portable Spa

## Filling and Powering-up Your Cal Spa:

1. Once spa is placed on an approved surface and is connected to the correct electrical service, inspect all plumbing connections in the equipment area of your spa. These connections may have loosened during shipment.
2. If equipped, open all gate valves or slice valves in the equipment area.  
Note: Before operating the spa these valves must be in the up or open position.
3. Place a garden hose in the skimmer basket and continue filling your spa with **Regular Tap Water** up to the "Water Level" line or half way up the skimmer area.
4. Open the air relief valve located in the skimmer area of most system spas. On all other spas, use the air relief valve located on the front of the pump housing.
5. After the air bubbles stop coming out of the air relief valve, hand tighten valve until closed (Do not over tighten).
6. Once the water level is at the correct level, turn on the power at the GFCI breaker.  
Note: 110-Volt spas are connected to the proper electrical outlet.
7. The spa will perform a diagnostic check for 30 seconds. Once complete, the spa will automatically operate at filter speed and continue heating until the spa water temperature reaches 100°F. (This is every electronically controlled spas default temperature).

Note: Pneumatic spas will operate and heat to the manual setting (where the thermostat is set). See pneumatic operating instructions on page 21 for more information.

8. The spa is now ready for use. For operation instructions see the "Controls Operation" sections of this manual on pages 21 through 38.

## Important Notes:

Be careful not to over tighten plumbing fittings.

Never run spa with gate valves closed or without water circulating for long periods of time.

Never fill your spa with soft water. Soft water makes it impossible to maintain the proper water chemistry and may cause the water to foam and ultimately harm your spas finish and void your warranty.

# Starting Up Your Inground or Olympian Spa

## Filling and Powering-up Your Cal Spa:

1. Once your spa is installed inground or placed on an approved surface and connected to the correct electrical service, you can proceed with these instructions.
2. If equipped, open all gate valves or slice valves.  
Note: Before operating the spa these valves must be in the up or open position.
3. Place a garden hose in the skimmer basket and continue filling spa with **Regular Tap Water** up to the Water Level line or half way up the skimmer area.
4. Remove lid(s) from pump basket(s) and filter canister.
5. Fill the pump basket(s) and external filter canister with a garden hose until full and replace the lids snugly.
6. Once the water level is at the correct level and the pump baskets and external filter canister is full of water, turn on the spa's power at the GFCI breaker.
7. The spa will perform a diagnostic check for 30 seconds. Once complete, the spa will automatically operate at filter speed and continue heating until the spa water temperature reaches 100°F. (This is every electronically controlled spas default temperature).
8. For information on adjusting the temperature setting, see the applicable "Controls Operation" section of this manual on pages 21 through 38.
9. The spa is now ready for use.  
For operation instructions see the applicable "Control Operation" section of this manual on pages 21 through 38.

### Important Notes:

Be careful not to over tighten plumbing fittings, filters, and pump basket lids.  
Never run spa with gate valves closed or without water circulating for long periods of time.  
Never fill your spa with soft water. Soft water makes it impossible to maintain the proper water chemistry and may cause the water to foam and ultimately harm your spas finish and void your warranty.

# Chemical and Care Maintenance

Proper chemical maintenance is essential to healthy clean water and overall spa life. The following information is designed to assist with both, as well as ensure your warranty coverage.

Neglecting or abusing the chemical balance in your spa will void your warranty, please read and follow these instructions carefully.

## Chemicals not allowed in your spa

Never use the following chemical in your spa:

1. Acids of any kind
2. Chlorine tablets
3. Liquid Chlorine
4. Tri-Chlor
5. Chlorinating Shock

**Note:** Granular Chlorine in moderation is ok. (See below for recommended levels)

## Cal Spas Recommended Bromine or Chlorine Chemical Program (500 Gallon Spa)

### Start-up:

1. Add 3 oz. of "Iron Out" or 16oz. of "Metal Protector".
2. Add 2 oz. of "Sodium Bromide".
3. Add 2 oz. of "Oxidizer Shock".
- 4a. Add 3 to 4 Bromine tablets to a "mostly" closed floater.

### OR

- 4b. Add 1 tsp. of granular chlorine while pumps are on High-Speed.
- Note:** Do not place bromine tablets in skimmer basket.

### Weekly:

1. Test spa water with test strips for the following items twice a week:
  - a. Bromine: Acceptable Range without a Cal Zone Ozonator is between Three (3) to Five (5).
  - b. Bromine: Acceptable Range with a Cal Zone Ozonator is between One (1) to Three (3).

### OR

- c. Chlorine: Acceptable Range without a Cal Zone Ozonator is between Three (3) to Five (5).
  - d. Chlorine: Acceptable Range with a Cal Zone Ozonator is between One (1) to Three (3).
  - e. pH Acceptable Range is between 7.2 to 7.8 P.P.M.
  - f. Alkalinity: Acceptable Range is between 80 to 120 P.P.M.
  - g. Add one to two bromine tablets. Usage varies with water temperature and bather loads.
2. Add 2 oz. of "Oxidizing Shock". Always follow directions on the container.  
(Do not use chlorinating shock.)
  3. Add 2 oz. "Stain & Scale Defense" or 3 oz. of "Iron Out" as directed on the container.
  4. Add "pH Up", if needed. Always follow directions on the container.
  5. Add "Alkalinity Up", if needed. Always follow directions on the container.
  6. Add "pH Down", if needed. Always follow directions on the container.

### Vacuum spa.

**Note:** Vacuuming your spa is very important to ensure optimum jet longevity and performance. Dirt, sand and other debris may cause the jets not to operate correctly and is not covered by the warranty.

### BI-Weekly:

1. Follow the weekly instructions, and the following.
  2. Clean the filter(s) cartridges. (See the "Filter Maintenance" section on pages 14 and 15)
  3. Visually inspect the equipment area for the following:
    - a. Equipment area is clean. (Cabinet vents are unobstructed)
    - b. Ozonator operation. (Ozonator only operates during filtration cycles)
    - c. Pumps, Plumbing, Air Blowers, Unions, Gate valves, and Ozone check valves for leakage.
- Note:** Component failure as a result of leaks not promptly reported will void the warranty.

# Chemical Maintenance (Continued)

## Monthly:

1. Deep clean your filter cartridge with a Cal Spas approved filter-cleaning chemical.

## Every Four to Six Months: (Or as needed)

1. Drain, clean and polish your spa with Cal Spas approved cleaners only.
2. When refilling, follow "Start-up" procedures listed on the previous page.  
Recommend filter cartridge replacement (Once a Year)!!!

Cal Spas recommends the use of "Cal Spas Chemicals" only. These chemicals are specifically manufactured for Cal Spas. When used properly, they will protect your spa's investment and maintain your warranty coverage. Ask your spa dealer for official Cal Spa Chemicals.

## Important Chemical Notice

Before the use of any chemicals, C.A.I. recommends all spa users to consult with their physician for possible allergic reactions to the corresponding chemicals. C.A.I. also recommends consulting with your local Cal Spas Dealer for a chemical program that is best suited for your local water condition, climate and usage habits.

## Filter Maintenance

### Portable Spas:

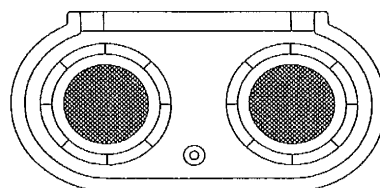
Filtration starts on electronically controlled spas as soon as the pumps are primed and water flow is steady. As the flow of water goes through the filter, dirt and debris is removed and accumulated in the filter cartridge. As the filter cartridge accumulates minerals, dirt and debris, water flow is lessened and jet performance is reduced. This can cause your spa not to run or heat properly.

Clean Your Filter Regularly and Replace as Needed

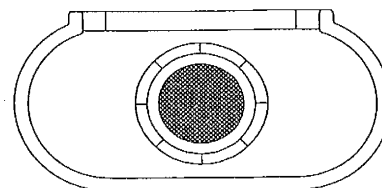
### Filter Cleaning:

Your new Cal Spa has been designed for quick and easy filter maintenance. The filter cartridge should be cleaned once a week.

1. Turn the power off at the breaker.
2. Remove the filter(s) cover (If equipped).
3. Remove the filter(s) basket (Align flat areas on filter basket and canister).
4. Remove the filter(s) by Pulling up and Out, clean filter with a garden hose.
  - a. Hold filter vertically.
  - b. Spray the filter cartridges with a pressure nozzle, starting from the top and spraying down each pleat.
  - c. Turn filter cartridge over and repeat step 4.b.
  - d. Reinstall the filter cartridge in reverse order of removal.
5. Deep clean filter cartridge(s) every month. Use only a Cal Spas approved filter-cleaning chemical.



*Filtration System*  
100 Sq. Ft. System



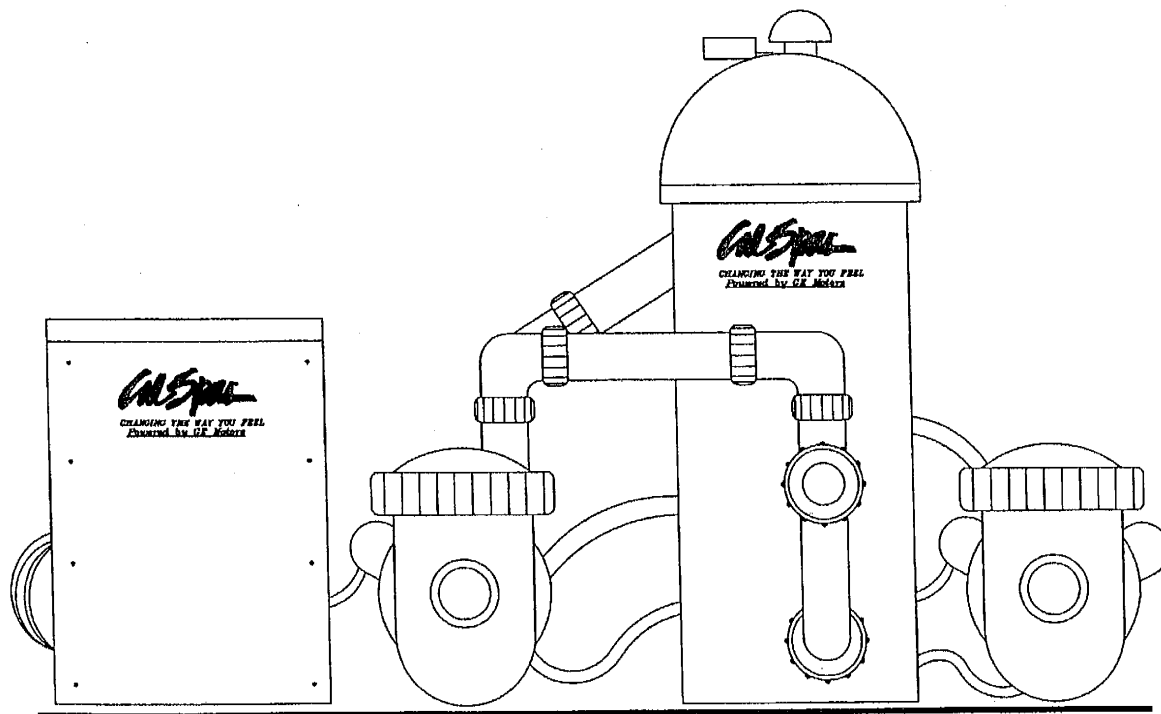
*Filtration System*  
50 Sq. Ft. System



## Filter Maintenance (Continued)

### Inground and Olympian Spas Outdoor Equipment:

1. Turn the power off at breaker.
2. If your spa is equipped with a spa side filter canister in addition to the external equipment mounted canister, please follow the portable spa filter maintenance steps on page 14 in addition to the steps listed below.
3. Close all gate valves if equipped (down = closed).
4. Unscrew the lid on the pump basket(s).
5. Remove the lint traps inside and spray clean with a pressure nozzle attached to a garden hose.
6. Remove lock nut from top of external filter canister.
7. Remove filter cartridge. (pull-up and Out)
  - a. Hold filter vertically.
  - b. Spray filter cartridge with a pressure nozzle starting from the top and spraying down each pleat.
  - c. Turn the filter cartridge over and repeat step 7b.
  - d. Reinstall the filter cartridge in reverse order of removal.
8. Deep clean the filter cartridge every month. Use a Cal Spas approved filter-cleaning chemical only.



# General Operating Instructions

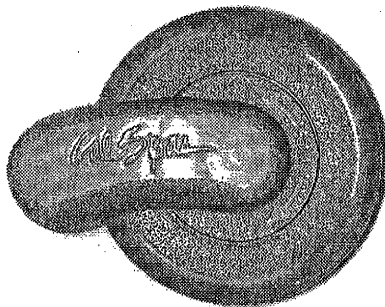
Your new Cal Spa is very versatile, you can direct the flow of water and air through various locations throughout your spa. The following list of features are available on most spas:

## Air Venturies

Air Venturies are the smaller knobs located around the top of your spa. Each one will let you add a mixture of air in with the jet pressure. This is accomplished by simply rotating the air venturi handle to the left (Counter clockwise) to decrease the amount of airflow through the jets. To increase the amount of airflow through the jets, simply rotate the handle to the right (Clockwise).

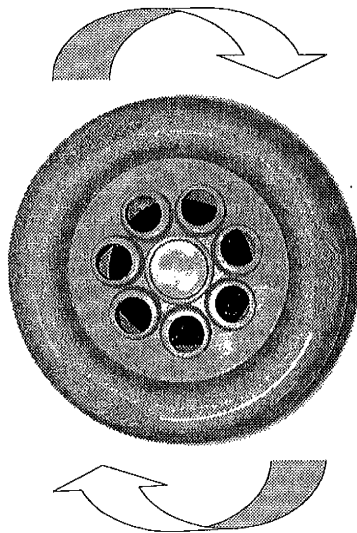
Multiple air venturies allow you to add or remove the air in different sections of the spa.

Note: The Air Venturi system may not be controlled on spas with the optional Turbo System.



## Adjustable Jets

Almost all of the jets in your spa are adjustable. Rotating the face of an adjustable jet to the left (Counter clockwise), will increase the amount of water flow through the jet. Rotating the face of an adjustable jet to the right (Clockwise), will decrease the amount of water flow through the jet.



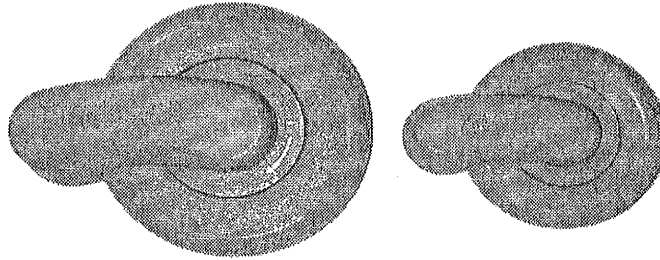
# General Operating Instructions (Continued)

## Diverter Knobs

Diverter knobs are the larger knobs located around the top of your spa. They allow you to divert water through jets from one side of the spa to the other. Or in most cases from "Floor Jets" to "Wall Jets".

This is accomplished by simply rotating the diverter knob to the left (Counter clockwise), decreasing the amount of water flow through a section of jets. To increase the amount of water flow through the other section of jets, simply rotate the handle to the right (Clockwise).

## Diverter Knob



## Cal Zone Quest 2000 Ozonator

Your new Cal Zone Quest 2000 Ozonator is a state-of-the-art bacteria killing machine. This unit will assist you in maintaining clean and clear spa water, while saving you time and expense with spa chemicals.

### Operation

Your Cal Zone Quest 2000 Ozonator will automatically operate during the filter cycles. When the spa is in filtration cycle, the Ozone Indicator light on the topside control panel will light up, letting you know that the control box is sending power to the Cal Zone Quest 2000 Ozonator unit.

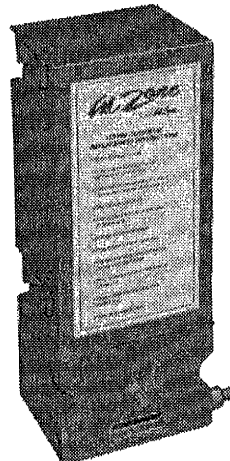
The Cal Zone Quest 2000 Ozonator unit also has two forms of operating signals. On the topside control panel there is a yellow light labeled "OZONE INDICATOR". This light indicates that the Ozonator unit is receiving power from the control box. The second operating signal is the most important. Located on the front side towards the bottom, is the ozone-mixing chamber. When operating, the lens will display a purple / black light. This light and energy is creating ozone in front of your eyes.

Note: Due to the nature of the ozone light, it is difficult to see the light in daylight. This lens should be checked at night or in a shaded condition.

### Ozone Servicing

Your new Cal Zone Quest 2000 Ozonator has been engineered to be service friendly. In the event that you need to replace the ozone cartridge, simply follow the instructions listed on the front of the ozone unit.

## Cal Zone Quest 2000 Ozonator



# General Operating Instructions (Continued)

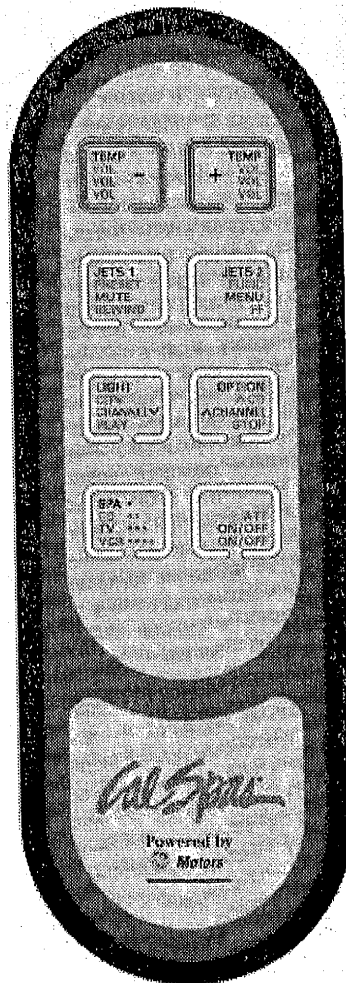
## Remote Control Operation (Optional)

The new generation of remote controls is here. This completely waterproof remote control can operate the spa and stereo system from any seat inside the spa.

## Operating Instructions

Remote control operates as any other remote does. Simply press any button on the controller to operate listed function.

Note: The mode button is located on position number four (4). This button allows you to switch the remote between spa and stereo functions.



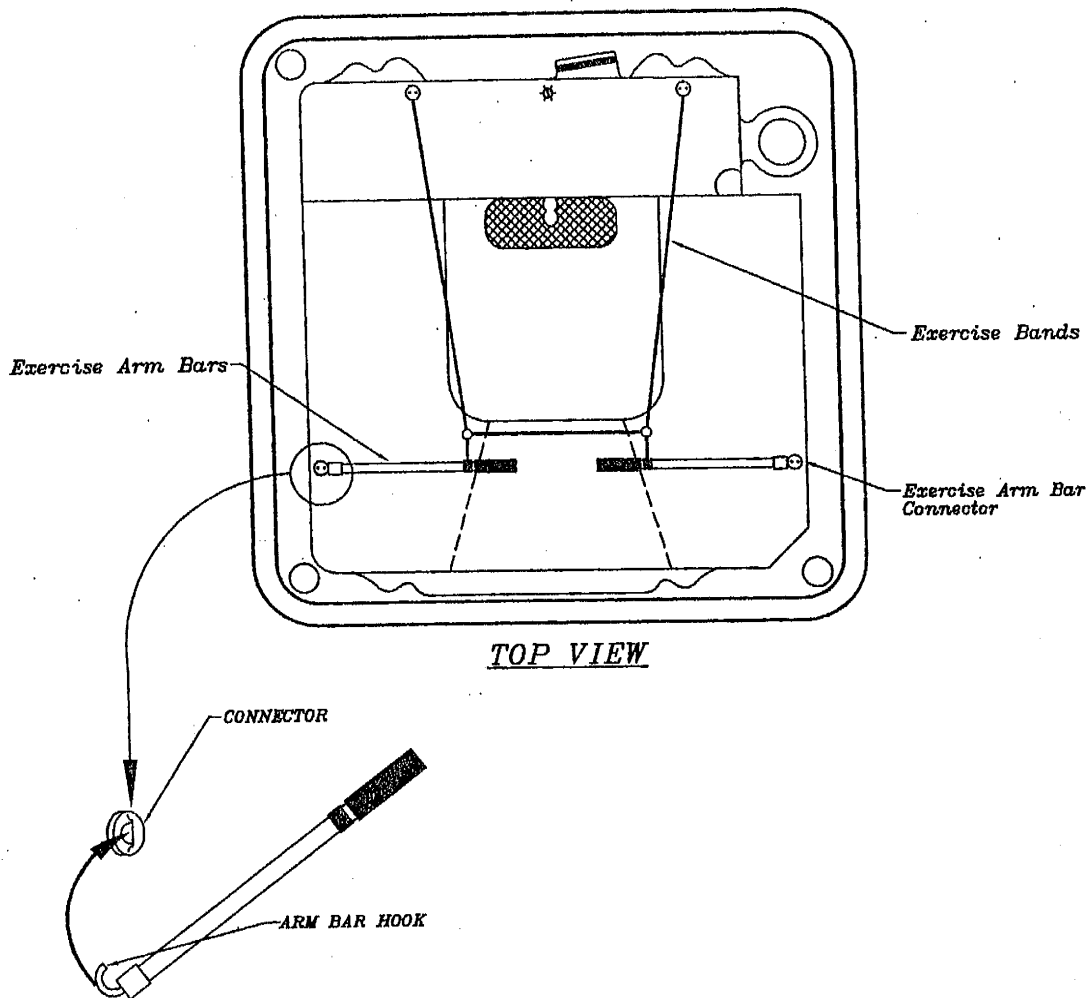
## Note:

Always return the remote control to its proper storage location on the top of the spa rail. Remotes and other floating items may be drawn into the skimmer area and cause the "Safety Suction System" to activate and or the heater to turn off. The remote controls used are Infrared. Infrared systems may not operate correctly in direct sunlight.

# Fitness Series Instructions

The fitness series spas put the fun back into fitness. This comes with everything you need for a high powered, low impact, result-getting workout in total comfort and privacy. Plus you get a spa loaded with incredible therapeutic seating, variable jet massage and generous control options, and the most gorgeous cabinetry on the planet.

The fitness equipment consists of 2 exercise arm bars, 2 exercise band cords, 2 exercise bands and grips, and an exercise belt. This equipment attaches quickly and easily to the exercise anchors located on the spa walls.



**TOP VIEW**

**WHEN ATTACHING ARM BAR PLACE HOOK FACING AWAY FROM YOU THEN PLACE INTO THE CONNECTOR. (AS SHOWN)**

## Important Safety Notice

Always consult your physician before starting any exercise activity or program. The fitness series spas feature rubber exercise bands. When stretched, these bands create a hi-tension condition. Improper use or failure to connect the exercise bands properly may cause injury. Always inspect all of the exercise equipment prior to beginning any exercise. Do not use any damaged equipment.

# Fitness Series Exercise Program

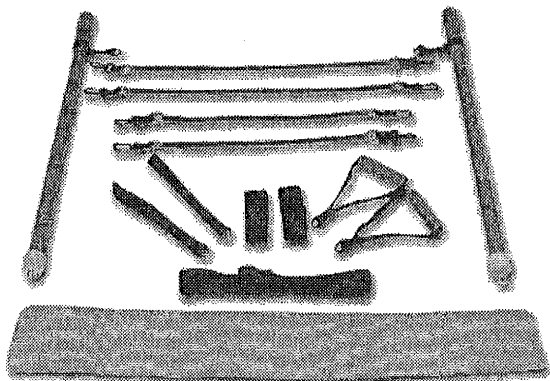
Many people have never performed resistance training and/or may not fully understand the benefits of this extremely important form of exercise for the goal of improving your overall health and changing your overall appearance.

Resistance training is necessary when trying to lose body fat, maintain and improve lean muscle structure and increase energy levels while improving flexibility.

Hydrotherapy is a remarkable way of utilizing water and heating to promote health and wellness. The majority of people are turning back to natural methods of healing and health practices to improve their body externally, but most of all internally. Hydrotherapy provides specific benefits for increased blood circulation, detoxification, reduction of body fat, replenish minerals and nutrients in the body and relieves stress.

## Fitness Series Exercise Program (20 to 30 min. session three times a week)

1. Seated Row: An all around exercise that focuses on the muscles of the upper back, shoulders and arms. Using the exercise bars in a seated position with your feet stable, abs tight and lower back stable. Palms down, arms extended with elbows slightly bent. Pull towards your chest squeezing your shoulder blades to the middle back and returning slowly to the starting position.  
\* This exercise can be performed one side at a time
2. Standing Chest Fly: An excellent upper body exercise that focuses on the muscles of the chest shoulders and arms. Using the exercise grips, place palms sideways facing your body with your elbows slightly bent. Pull forward toward your body bringing hands together squeezing and flexing chest muscles, then slowly returning to the starting position.
3. Standing Chest Press: Using the exercise grips, place your palms down with your elbows bent at 90 degrees. Press forward bringing your hands together, squeezing and flexing your chest muscles, then slowly return to the start position.
4. Standing Shoulder Press: Using the exercise grips, place your palms facing away from your body with your elbows bent at 90 degrees. Press upward bringing your hands together in front of you above your head and slowly return to the start position.
5. Arm Curls: Using the exercise grips, place your hands face up with your elbows slightly bent, pull upward towards your chin squeezing and flexing your biceps then slowly return to start position.
6. Hydro Squats: Excellent for defining and firming the buttocks, thighs and legs. From a standing position, slowly sink down into the water until your buttocks is level with your knees (90 degrees). Squeezing your muscles tightly like sitting in a chair with abs tight and your back straight then slowly returning to standing position.
7. Hydro Leg Extensions: Sitting with your feet flat, knees bent (90 degrees) and abs tight. Lift your foot upwards straightening the leg while squeezing and flexing the thigh muscles and slowly lowering the feet to start position.

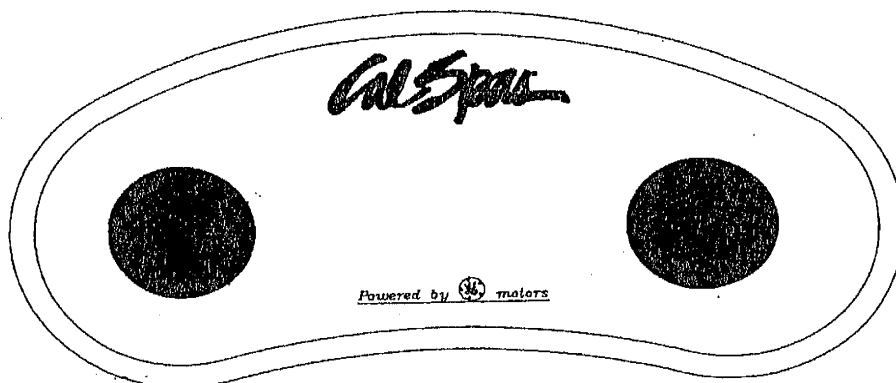


### Important Safety Notice

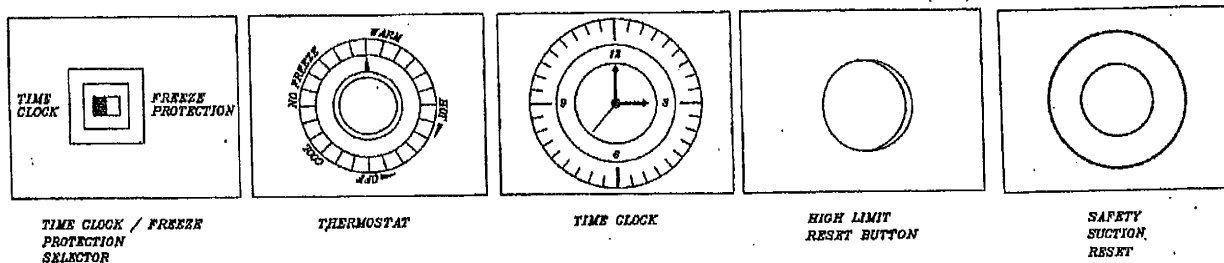
Always consult your physician before starting any exercise activity or program. The fitness series spas feature rubber exercise bands. When stretched, these bands create a hi-tension condition. Improper use or failure to connect the exercise bands properly may result in injury. Always inspect all exercise equipment prior to beginning any exercise. Do not use any damaged equipment.

# Pneumatic Operation

## Pneumatic Topside Control Panel



### Control Box Features



### Start-up

When first powered up, flip the selector switch to the Freeze Protection Mode and the spa will run and heat to the temperature the thermostat is positioned on.

### Time Clock / Freeze Protection

#### Freeze Protection Mode:

When in this mode, the thermostat will automatically maintain the water temperature that the thermostat is set to. The filter speed of the pump and heater will operate whenever the spa water drops by more than 2°F. This will ensure that your desired water temperature is always maintained.

#### Time Clock Mode:

When in this mode, the temperature will only be maintained during the time that you have set on the time clock. See the Time Clock Operation section below for setting instructions.

### Temperature Adjustment

Rotate the thermostat knob clockwise, from OFF to HOT to set desired water temperature. Range of water temperature will be from OFF to 104°F in the HOT position.

### Time Clock Operation

Filtration of the spa water is accomplished any time the pump is running. To set filtration time, simply press the white tabs towards the center of the time clock. Each white tab equals fifteen (15) minutes of filtration and heating time. Cal Spas recommends a filter setting of two (2) to four (4) hours twice a day.

## Hi Limit

Your spa is equipped with a "High Limit Safety Switch" that will automatically shut down the spa in the unlikely event of an overheating situation. To reset the Hi-Limit, simply push the Hi-Limit Reset Button in until it stops, and the spa will restart itself.

## Safety Suction System

Your spa is equipped with a Safety Suction System that will automatically shut down the spa in the event of blockage to a suction fitting or filter obstruction. To reset the Safety Suction System, simply clear any obstruction or debris from the suction fittings, push the button located on the right side of the control box, and the spa will restart itself.

## Jet Controls

Depress the Jet button(s) to activate the high-speed pump(s). Depress the Jet button again to turn off the high-speed pump(s).

## Light

Depress the Light button to turn on the spa light. Depress the Light button again to turn off the spa light.

## Turbo (Optional)

Depress the Turbo button to turn on the spa's Turbo System. Depress the Turbo button again to turn off the turbo system.

## 120 / 240 Volt Toggle Switch (Optional)

Convertible control boxes include a 120 /240 Volt toggle switch located on the left side of the control box. This switch is used to control the heating element at different voltages.

## Toggle Switch Position

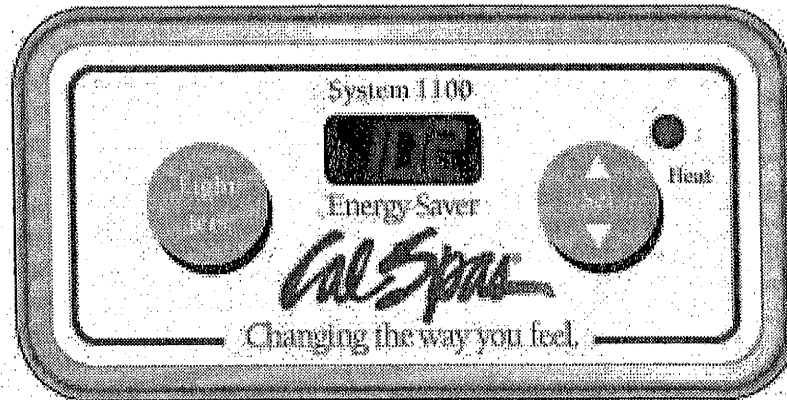
UP = 120-Volt Position

Down = 240-Volt Position

Note: If the toggle switch is in the wrong position the GFCI breaker is subject to trip and render the spa inoperable.



# 1100 Electronic Operation



## Temperature Adjustment (Range 80°F to 104°F)

The display screen will always display the actual water temperature.

Example: The actual water temperature is 100°F, the topside display will read 100.

To display the set temperature, simply depress the Temp pad and the temperature setting will flash on and off on the display panel. While the display is flashing, each time you depress the Temp pad the set temperature will increase one degree. Allow the display to revert back to the actual water temperature, then depressing the Temp pad again, allows you to decrease the set temperature by one degree with each press of the Temp pad.

## Standard Heating Mode

Your new spa is equipped with a "Standard Heating Mode" feature that gives you complete control of the heating system. When the spa is powered up, the heating system will automatically activate. Whenever the water temperature drops more than one degree below the set temperature the heating system will automatically activate and continue to operate until the spa has regained the temperature loss.

## Jet / Light Controls

Depress the Jets pad once to activate the low-speed pump.

Depress the pad a second time to activate the spa light and the low speed pump.

Depress the pad a third time to activate the spa light and the high-speed pump.

Depress the pad a fourth time to run the high-speed pump with the spa light off.

Depress the pad a fifth time to turn off the high-speed pump.

## Automatic Time outs

The low-speed pump will automatically turn itself off after 30 minutes, if it's not turned off manually.

The high-speed pump will automatically turn itself off after 30 minutes, if it's not turned off manually.

The spa light will automatically turn itself off after 4 hours, if it's not turned off manually.

### Setting Filtration Cycles

Your spa will automatically filter itself twice a day. To set the filtration time, turn off the power to the spa and turn it back on at the time of day you would like the filtration cycles to start at the GFCI Breaker.

Example: If you power-up your spa at 12 Noon, your filtration cycles will start at 12 noon and 12 Midnight.

The first cycle will start after the spa is powered up. The second filtration cycle will begin twelve hours later. The filter cycle duration is preset for 4 hours (F4). To change the duration of the filtration time, depress the Temp pad, then press the Jets pad. Depress the Temp pad again to choose from 2,4,6,8 and 0 filtration cycles (0= Continuous Filtration). After selecting the desired filtration duration, depress the Jets pad to exit the filter program.

Note: The filtration cycle settings of 6, 8 and 0 could cause the water temperature to exceed the set temperature. This condition is called thermal creep. When water is moved through the plumbing, it can generate heat and actually heat the spa water without the heating system ever being engaged.

### 120/240 Conversion

The 1100 series spa is a convertible system. The conversion from 120 Volts to 240 Volts must be performed by a licensed / bonded electrician. See 120 to 240 volt conversion instructions, located on the inside cover of the control box.

### 120 Volt Heater Operation

When connected as a 120-Volt spa, the heater will only operate when the spa motor is on low speed or filtration speed. Once the high-speed motor is engaged, the heater will automatically disengage.

### 240 Volt Heater Operation

When connected as a 240-Volt spa, the spa heater will operate on either low-speed or high-speed. The heater will operate until the set temperature is reached.

# Self-Diagnostics

## Display Messages for the 1100 Series Spas

Message	Meaning	Action Required
OH	“Overheat” The spa has shut down. Either the spa has reached a temperature of 112F° or the High-limit sensor has detected overheating in the heater manifold.	<b><u>DO NOT ENTER THE SPA WATER.</u></b> Remove the spa cover and let the water cool. At 110°F, the spa should automatically reset. If the spa does not automatically reset, press any pad on the topside control panel. If the spa still won't reset, turn off the power and call your local authorized service center.
FL	“FL” A pressure switch has detected a loss of water flow.	Check the filter for debris. If it's dirty, clean it. (See page 14 for cleaning instructions) If the problem persists, call your local authorized service center.
Sn	“Sensor” Spa has shut down. The Hi-limit/Temperature sensor has malfunctioned.	Call your local authorized service center.

### ELECTRICAL RATING FOR 1100 SERIES SPAS

#### 120 /240 Volt Convertible

120 Volts

15 Amps

60 Hertz

2 Wires plus Ground

Min. Supply conductor 20 Amp

Circuit Breaker 20 Amps

For units bearing the UL mark the power supply cord is provided with integral GFCI.

For units bearing the C-UL mark, the power supply cord is not provided. Field wiring leads are provided inside the conduit body with a minimum of 6-inches in length.

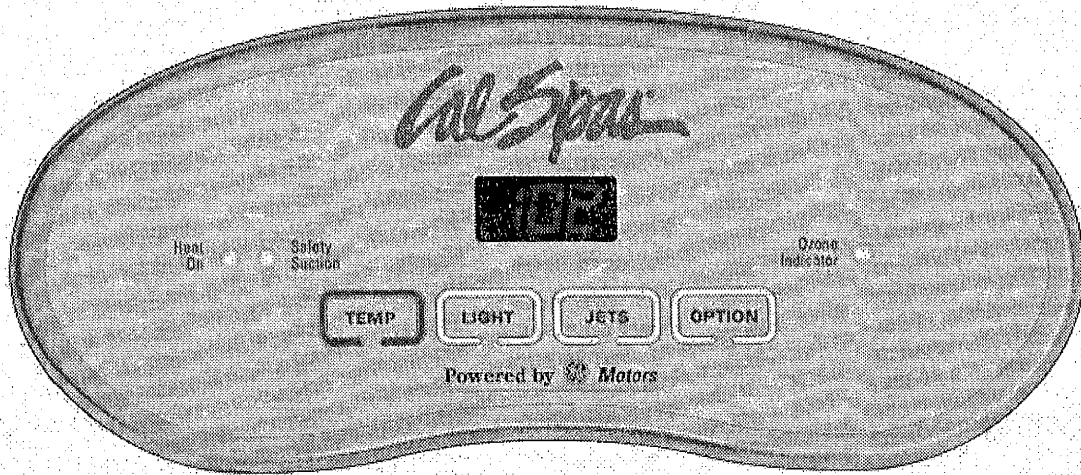
240 Volt

40 Amps (Must use a 40Amp GFCI Circuit Breaker)

60 HTZ

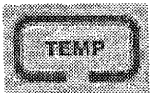
4 Wire Min. 8 AWG Copper

# 2100 Electronic Operation



## Initial Start up

When first powered up, the system will perform a self-diagnostic check and then it will automatically heat to and maintain a temperature of 100°F until you change the set temperature as listed in the Temperature Adjustment section.



## Temperature Adjustment (Range 80°F to 104°F)

The display screen will always display the actual water temperature.

To display the temperature that the spa is set to, simply depress the Temp pad. The set temperature will be flashing on the display panel. While the display is flashing, each time you depress the Temp pad will change the set temperature either up or down by one degree. Letting the display revert back to the actual water temperature, then depressing the Temp pad again will allow you to change the direction of temperature adjustment.



## Standard and Economy Modes

Your new spa is equipped with a Standard and Economy heating feature that gives you complete control of the heating system. When the spa is powered up, it will automatically start in the "Standard Heating Mode". In this mode, the heating system will automatically activate whenever the water temperature drops more than one degree below the set temperature. In the "Economy Heating Mode", the heating system will only activate during filtration times. (See "Setting Filtration Cycles" on page 28.)

To switch from the "Standard Heating Mode" to the "Economy Heating Mode", simply depress the Temp pad followed by the Light pad. Depress the same sequence to switch back to the "Standard Heating Mode".

Once in the "Economy Heating Mode", *EC* will be displayed in the center of the topside control panel and flash alternately with the water temperature. This is to inform you of what heating mode you are currently in.

Note: There is no topside control panel message displayed while in the "Standard Heating Mode", only the actual water or temperature is displayed.

# 2100 Electronic Operation (continued)



## Jet Controls

### One pump equipment:

Depress the Jets pad once to activate the low-speed pump. Depress the jets pad again to activate the high-speed pump. Depress the jets pad a third time to turn off the high-speed.

### One pump equipment with circulation pump

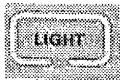
Depress the Jets pad once to activate the circulation pump. Depress the jets pad again to activate the circulation pump and the high-speed pump. Depress the jets pad a third time to turn off both the circulation pump and the high-speed pump.

### Two pump equipment without circulation pump

Depress the Jets pad once to activate the low-speed pump. Depress the jets pad again to activate the high-speed on pump 1.  
1. Depress the jets pad a third time to activate the high-speed on pump 1 and high-speed on pump 2. Depress the jets pad a fourth time and only the high-speed on pump 2 will be on. Depress the jets pad a final time to turn the high-speed off on pump 2.

### Two pump equipment with circulation pump

Depress the Jets pad once to activate the circulation pump. Depress the jets pad again to activate the circulation pump and the high-speed pump 1. Depress the jets pad a third time and the circulation pump, high-speed pump 1 and high-speed pump 2 will be on. Depress the Jets pad a fourth time and only the high-speed pump 2 will be activated. Depress the jets pad a final time to turn off the high-speed on pump 2.

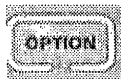


## Lights

Depress the Light pad to turn on the spa light and again to turn the light off.

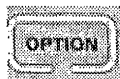
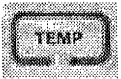
### Optional Lighting:

All optional lighting such as the "Control Panel Light" and "Cabinet Perimeter Lighting" is also controlled by the Light pad and will turn on and off with the spa light.



## Turbo (Optional)

Depress the Options pad once to activate the Turbo system. Depress the Option pad again to turn off the Turbo system.



## Setting the Temperature lock

This feature allows you to lock a temperature into the system. When engaged the set temperature will blink on and off while the Temp pad is depressed. However, the user will not be able to change the set temperature. The following steps, enables you to lock-in a set temperature:

Depress the Temp pad, then depress the Options pad to lock the set temperature. Repeat this step to unlock the set temperature.

## Automatic Time outs

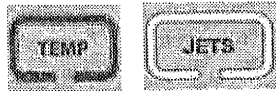
The low-speed or optional circulation pump will automatically turn itself off after 4 hours if it is not turned off manually.

The high-speed pump will automatically turn itself off after 15 minutes if it is not turned off manually.

The optional turbo system will automatically turn itself off after 15 minutes if it is not turned off manually.

The light will automatically turn itself off after 15 minutes if it is not turned off manually.

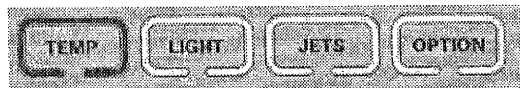
## 2100 Electronic Operation (continued)



### Setting Filtration Cycles

Your spa will automatically filter itself twice a day. To set the filtration time, turn off the power to the spa at the GFCI breaker. Turn the GFCI breaker back on at the time of day you would like to start the filtration cycle. The first cycle will start after the spa is powered up. The second filtration cycle will begin twelve hours later. The filtration cycle duration is preset to 4 hours (F4). To change the duration of the filtration time, depress the Temp pad, then press the Jets pad. Depress the Temp button again to choose from 2,4,6,8, and 12 hours twice a day ( **FC** = Filtration Continuous). After selecting the desired filtration cycle duration, depress the Jets pad to exit the filtration program. The circulating pump and ozone generator (optional) will run during filtration cycles.

**Note:** The filtration cycle settings of F8 and **FC** are only intended for use with the optional "Spa Cal Filtration System".

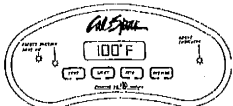


### Safety Suction System

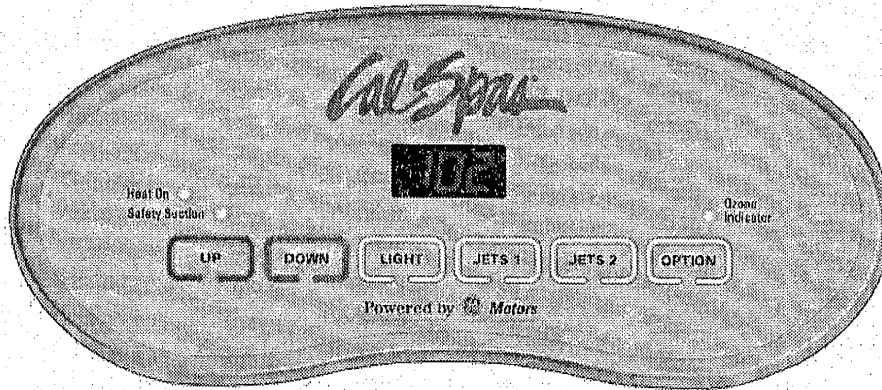
Your new Cal Spa is equipped with a state-of-the-art "Safety Suction System." This will automatically shutdown the spa in the event of a filtration or suction restriction, and display **SF** on the topside control panel. If this happens, check all suction fittings and filter cartridge(s) for obstructions. Then, reset the system by depressing any topside pad.

# Self-Diagnostics

## Display Messages for 2100 Electronic Spas

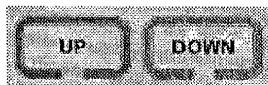
Message	Meaning	Action Required
<p><b>Ec</b></p> <p>(Flashing)</p>	<p>“Economy Heating Mode” When flashing alternately with the water temperature, your spa is in the Economy Heating Mode.</p>	<p>This message does not indicate the need for service. For more information, see the Standard and Economy Modes Section on page 26.</p>
<p><b>OH</b></p>	<p>“Overheat” The spa has shut down. Either the spa has reached a temperature of 112F° or the High-limit sensor has detected overheating in the heater manifold.</p>	<p><b><u>DO NOT ENTER THE SPA WATER.</u></b> Remove the spa cover and let the water cool. At 110°F, the spa should automatically reset. If the spa does not automatically reset, press any pad on the topside control panel. If the spa still won't reset, turn off the power and call your local authorized service center.</p>
<p><b>FL</b></p>	<p>“FL” A pressure switch has detected a loss of water flow.</p>	<p>Check the filter for debris. If it's dirty, clean it. (See page 14 for cleaning instructions) If the problem persists, call your local authorized service center.</p>
<p><b>SF</b></p>	<p>“Safety” Spa has shut down. The safety suction system has activated.</p>	<p>Check the drains and filters for debris or obstructions. To reset the system, press any pad on the topside control panel.</p>
<p><b>Sn</b></p>	<p>“Sensor” Spa has shut down. The Hi-limit/Temperature sensor has malfunctioned.</p>	<p>Call your local authorized service center.</p>
	<p>“LED's” These LED lights are used to inform you of the corresponding feature is the operation</p>	<p>These LED are not service indicators. No action is required.</p>

# 2200 Electronic Operation



## Initial Start up

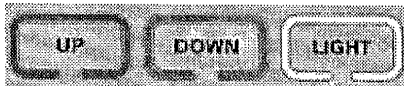
When first powered up, the system will perform a self-diagnostic check, then will automatically heat and maintain 100°F until you change the set temperature as listed in the Temperature Adjustment section.



## Temperature Adjustment (Range 80°F to 104°F)

The display screen will always display the actual water temperature.

To display the temperature that the spa is set to, simply depress either the Up or Down pad. The set temperature will be flashing on the display panel. When the display is flashing, each time you depress either the Up or Down pad, the set temperature will change up or down one degree.



## Standard and Economy Modes

Your new spa is equipped with a Standard and Economy heating feature that gives you complete control of the heating system. When the spa is powered up, it will automatically start in "Standard Heating Mode". In this mode, the heating system will automatically activate whenever the water temperature drops more than one degree below the set temperature. In the "Economy Heating Mode" the heating system will only activate during filtration times. (Filtration times are set by using the "Setting Filtration Cycles" section on page 32.)

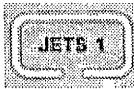
To switch from the "Standard Heating Mode" to the "Economy Heating Mode", simply depress either the Up or Down pad followed by the Light pad. Depress the same sequence to switch back to the "Standard Heating Mode".

Once in the "Economy Heating Mode", **EC** will be displayed in the center of the topside control panel and flash alternately of the water temperature. This is to inform you of what heating mode you are currently in.

Note: There is not a topside control panel message displayed when in the "Standard Heating Mode". Only the actual water temperature will be displayed.



# 2200 Electronic Operation (continued)



## Jets 1 Controls

### *Without Circulation Pump Option:*

Depress the Jets 1 pad once to activate low-speed. Depress the pad again to activate the high-speed.

Depress the Jets 1 pad a third time to turn off the high-speed.

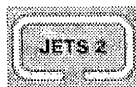
### *With Circulation Pump Option:*

Depress the Jets 1 pad once to activate the high-speed pump. Depress the Jets 1 pad again to turn off the high-speed pump.

### *Circulation Pump and Two Speed Pump Option:*

Depress the Jets 1 pad once to activate low-speed. Depress the pad again to activate the high-speed.

Depress the Jets 1 pad a third time to turn off the high-speed.



## Jets 2 Controls

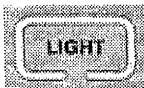
### *One Speed Pump:*

Depress the Jets 2 pad once to activate the high-speed pump. Depress the Jets 2 pad again to turn off the high-speed pump.

### *Two Speed Pump Option:*

Depress the Jets 2 pad once to activate low-speed. Depress the pad again to activate the high-speed.

Depress the Jets 2 pad a third time to turn off the high-speed.

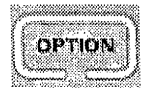


## Light

Depress the Light pad to turn on the light and again to turn the light off.

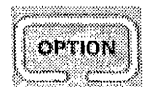
### *Optional Lighting:*

All optional lighting such as the "Control Panel Light" and "Cabinet Perimeter Lighting" is controlled by the Light pad and will turn on and off with the spa light.



## Turbo (Optional)

Depress the Option pad once to activate the Turbo system. Depress the Option pad again to turn off the Turbo system.



## Turbo and Mister (Multi Option)

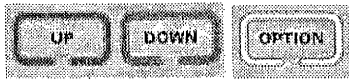
Depress the Option pad once to activate the Turbo system. Depress the Option pad again to operate the Turbo and Mister system together. Depress the option pad a third time to turn off both the Turbo and mister system.



## Mister (Optional)

Depress the Option pad once to activate the Mister system. Depress the Option pad again to turn off the Mister system.

# 2200 Electronic Operation (continued)



## Setting the Temperature lock

This feature allows you to lock-in a temperature into the system. When engaged, the set temperature will blink on and off when either the Up or Down pad is depressed. However, the user will not be able to change the set temperature. Using the steps listed below you can lock or unlock the set temperature. Depress either the Up or Down pad, and then depress the Option pad to lock the set temperature in. Depress the same sequence to unlock.

## Automatic Time outs

The low-speed or (optional) circulation pump will automatically turn itself off after 15 minutes if not turned off manually.

Either high-speed pump will automatically turn itself off after 15 minutes if not turned off manually.

The optional turbo will automatically turn itself off after 15 minutes if not turned off manually.

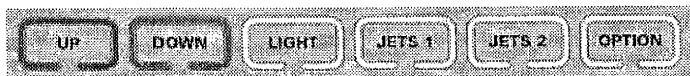
The light will automatically turn itself off after 15 minutes if not turned off manually.



## Setting Filtration Cycles

Your spa will automatically filter itself twice a day. To set filtration time, turn off the power to the spa at the time of day you would like to start filtration. The first cycle will start after the spa is powered up. The second filter cycle will begin twelve hours later. Filtration cycle duration is preset for 4 hours (F4). To change duration of filtration time, depress either the Up or Down pad, then press either the Jets 1 or Jets 2 pad. Depress the Temp button again to choose from 2,4,6,8, and 12 hours twice a day. (**FC** = Filtration Continuous) After selecting the desired filtering duration, depress the Jets pad to exit the Filtration program. The circulating pump and ozone generator (optional) will run during Filtration cycles.

Note: The Filtration cycles settings of F8 and **FC** are only intended for use with the optional "Spa Cal Filtration System".

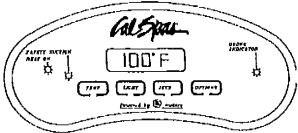


## Safety Suction System

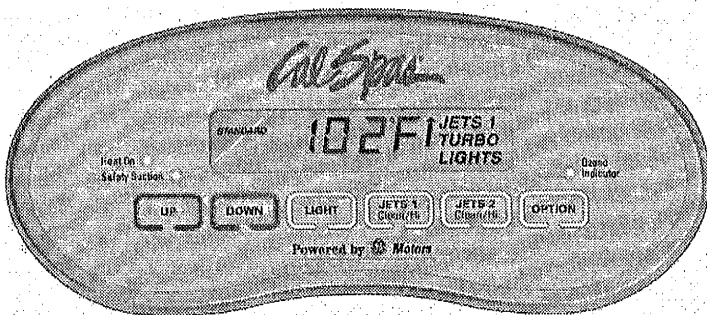
Your new Cal Spa is equipped with a state of the art "Safety Suction System." This will automatically shut the spa down in the event of filtration or suction restriction and display **SF** on the topside control panel. If this happens, check all suction fittings and filter cartridge(s) for obstructions. Then reset the system by depressing any topside pad.

# Self-Diagnostics

## Display Messages for 2200 Electronic Spas

Message	Meaning	Action Required
<p><b>Ec</b></p> <p>(Flashing)</p>	<p>“Economy Heating Mode” When flashing alternately with the water temperature, your spa is in the Economy Heating Mode.</p>	<p>This message does not indicate the need for service. For more information, see the Standard and Economy Modes Section on page 30.</p>
<p><b>OH</b></p>	<p>“Overheat” The spa has shut down. Either the spa has reached a temperature of 112° or the High-limit sensor has detected overheating in the heater manifold.</p>	<p><b>DO NOT ENTER THE SPA WATER.</b> Remove the spa cover and let the water cool. At 110°F, the spa should automatically reset. If the spa does not automatically reset, press any pad on the topside control panel. If the spa still won't reset, turn off the power and call your local authorized service center.</p>
<p><b>FL</b></p>	<p>“FL” A pressure switch has detected a loss of water flow.</p>	<p>Check the filter for debris. If it's dirty, clean it. (See pages 14-15 for cleaning instructions) If the problem persist, call your local authorized service center.</p>
<p><b>SF</b></p>	<p>“Safety” Spa has shut down. The safety suction system has activated.</p>	<p>Check the drains and filters for debris or obstructions. To reset the system, press any pad on the topside control panel.</p>
<p><b>Sn</b></p>	<p>“Sensor” Spa has shut down. The Hi-limit/Temperature sensor has malfunctioned.</p>	<p>Call your local authorized service center.</p>
	<p>“LED’s” These LED lights are used to inform you of the corresponding feature is the operation</p>	<p>These LED are not service indicators. No action is required.</p>

# 2300 Electronic Operation



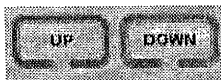
Topside Control Panel



Auxiliary Control Panel

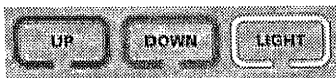
## Initial Start up

When first powered up, the system will perform a self-diagnostic check, then will automatically heat and maintain 100°F until you change the set temperature as listed in the Temperature Adjustment section.



## Temperature Adjustment (Range 80°F to 104°F)

The display screen will always display the actual water temperature. To display the temperature that the spa is set to, simply depress either the Up or Down pad. The set temperature will be flashing on the display panel. When the display is flashing, each time you depress either the Up or Down pad, the set temperature will change up or down one degree.

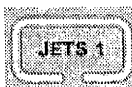


## Standard and Economy Modes

Your new spa is equipped with a Standard and Economy heating feature that gives you complete control of the heating system. When the spa is powered up, it will automatically start in "Standard Heating Mode". This is displayed as STANDARD on the left side of the topside control panel. In this mode, the heating system will automatically activate whenever the water temperature drops more than one degree below the set temperature. In the "Economy Heating Mode" the heating system will only activate during filtration times. (Filtration times are set by using the "Setting Filtration Cycles" section on page 37.)

To switch from the "Standard Heating Mode" to the "Economy Heating Mode", simply depress either the Up or the Down pad followed by the Light pad. Depress the same sequence to switch back to the "Standard Heating Mode". Once in the "Economy Heating Mode", ECONOMY will be displayed on the left side of the topside control panel. This is to inform you of what heating mode you are currently in.

## 2300 Electronic Operation (continued)



### Jets 1 Controls

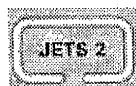
#### *One Speed Pumps:*

Depress the Jets 1 pad once to activate the high-speed pump. Depress the Jets 1 pad again to turn off the high-speed pump.

#### *Two Speed Pump Option:*

Depress the Jets 1 pad once to activate low speed. Depress the pad again to activate the high-speed.

Depress the Jets 1 pad a third time to turn off the high-speed.



### Jets 2 Controls

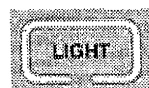
#### *One Speed Pumps:*

Depress the Jets 2 pad once to activate the high-speed pump. Depress the Jets 2 pad again to turn off the high-speed pump.

#### *Two Speed Pump Option:*

Depress the Jets 2 pad once to activate low speed. Depress the Jets 2 pad again to activate the high-speed.

Depress the Jets 2 pad a third time to turn off the high-speed.

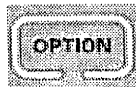


### Light

Depress the Light pad to turn on the light and again to turn the light off.

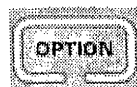
#### *Optional Lighting:*

All optional lighting such as the "Control Panel Light" and "Cabinet Perimeter Lighting" is controlled by the Light pad and will turn on and off with the spa light.



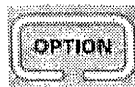
### Turbo (Optional)

Depress the Option pad once to activate the Turbo system. Depress the Option pad again to turn off the Turbo system.



### Turbo and Mister (Multi Option)

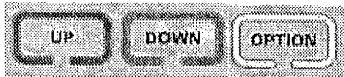
Depress the Option pad once to activate the Turbo system. Depress the Option pad again to operate the Turbo and Mister system together. Depress the option pad a third time to turn off both the Turbo and mister system.



### Mister (Optional)

Depress the Option pad once to activate the Mister system. Depress the Option pad again to turn off the Mister system.

## 2300 Electronic Operation (continued)



### Setting the Temperature lock:

This feature allows you to lock in a temperature into the system. When engaged the set temperature will blink on and off when either the Up or Down pad is depressed. However, the user will not be able to change the set temperature. Using the steps listed below you can lock or unlock the set temperature. Depress either the Up or Down pad and then depress the Option pad to lock the set temperature in. Depress the same sequence to unlock.

### Automatic Time outs

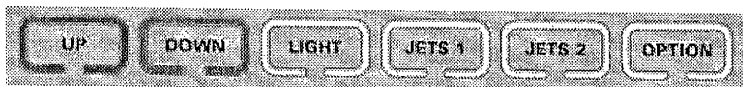
The low-speed or (optional) circulation pump will automatically turn itself off after 15 minutes if not turned off manually. Either high-speed pump will automatically turn itself off after 15 minutes if not turned off manually. The optional turbo will automatically turn itself off after 15 minutes if not turned off manually. The light will automatically turn itself off after 15 minutes if not turned off manually.



### Setting Filtration Cycles:

Your spa will automatically filter itself twice a day. To set filtration time, turn off the power to the spa at the time of day you would like to start filtration. The first cycle will start after the spa is powered up. The second filtration cycle will begin twelve hours later. Filtration cycle duration is preset for 4 hours (F4). To change duration of filtration time, depress either the Up or Down pad, then press either the Jets 1 or Jets 2 pad. Depress the Temp button again to choose from 2, 4, 6, 8, and 12 hours twice a day. (FC = Filtration Continuous) After selecting the desired filtering duration, depress the Jets pad to exit the filter program. The circulating pump and ozone generator (optional) will run during filtration cycles.

Note: The filtration cycle settings of F8 and FC are only intended for use with the optional "Spa Cal Filtration System".


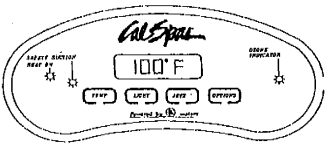


### Safety Suction System

Your new Cal Spa is equipped with a state-of-the-art "Safety Suction System." This will automatically shut the spa down in the event of filtration or suction restriction and display SF on the topside control panel. If this happens, check all suction fittings and filter cartridge(s) for obstructions. Then reset the system by depressing any topside pad.

# Self-Diagnostics

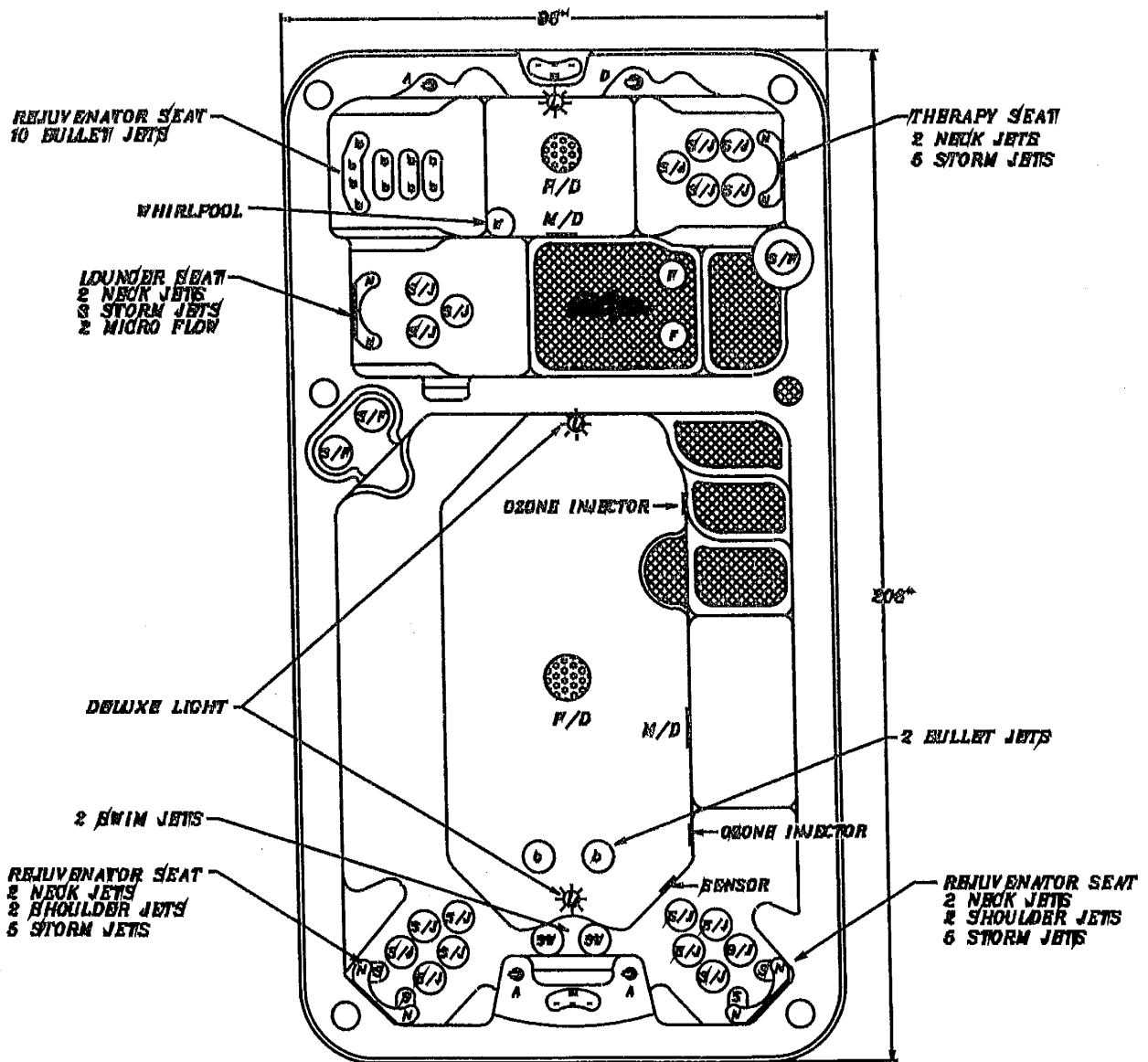
## Display Messages for 2300 Electronic Spas

Message	Meaning	Action Required
STANDARD	The spa is in the "Standard Heating Mode"	This message does not indicate the need for service.
ECONOMY	The spa is in the "Economy Heating Mode"	This message does not indicate the need for service.
JETS 1	Pump 1 is operating	This message does not indicate the need for service.
JETS 2	Pump 2 is operating	This message does not indicate the need for service.
TURBO	Turbo is operating	This message does not indicate the need for service.
LIGHTS	The spa lights are on.	This message does not indicate the need for service.
FILTER	The spa is in the "Filtration Mode"	This message does not indicate the need for service.
	The Temperature Lock is activated.	This message does not indicate the need for service.
OH	"Overheat" The spa has shut down. Either the spa has reached a temperature of 112F ° or the High-limit sensor has detected overheating in the heater manifold.	<b>DO NOT ENTER THE SPA WATER.</b> Remove the spa cover and let the water cool. At 110°F, the spa should automatically reset. If the spa does not automatically reset, press any pad on the topside control panel. If the spa still won't reset, turn off the power and call your local authorized service center.
FL	"FL" A pressure switch has detected a loss of water flow.	Check the filter for debris. If it's dirty, clean it. (See pages 14-15 for cleaning instructions) If the problem persist, call your local authorized service center.
SF	"Safety" Spa has shut down. The safety suction system has activated.	Check the drains and filters for debris or obstructions. To reset the system, press any pad on the topside control panel.
Sn	"Sensor" Spa has shut down. The Hi-limit/Temperature sensor has malfunctioned.	Call your local authorized service center.
	"LED's" These LED lights are used to inform you of the corresponding feature is the operation	These LED are not service indicators. No action is required.

# Olympian Spa Information

The Olympian spa is the best of both worlds. Swimming and exercising in the swim area and relaxing in the spa area. This spa is controlled by two completely separate control systems, which gives you the ability to have cooler temperatures for swimming and warmer temperatures for relaxing in the spa.

The swim area operates through an outdoor version of the 2300 electronic equipment. While the spa operates with the 2100 electronic equipment. Please see these operating instructions to properly control the various functions of this incredible spa.



Due to our continuous improvement program, all models and specifications are subject to change without prior notice.



# Cal Spas Entertainment System Operation:

## Raising and Lower the System:

Lets start our entertainment experience by raising the TV monitor and optional pop-up speakers. The large single CEC button is located on the top, right side of the spa, controls monitor and speaker raising and lowering.

### Operation:

1. Press the CEC button once to raise the TV monitor and optional pop-up speakers
2. Press the CEC button again to lower the TV monitor and optional pop-up speakers



# Cal Entertainment Center Operation (continued)

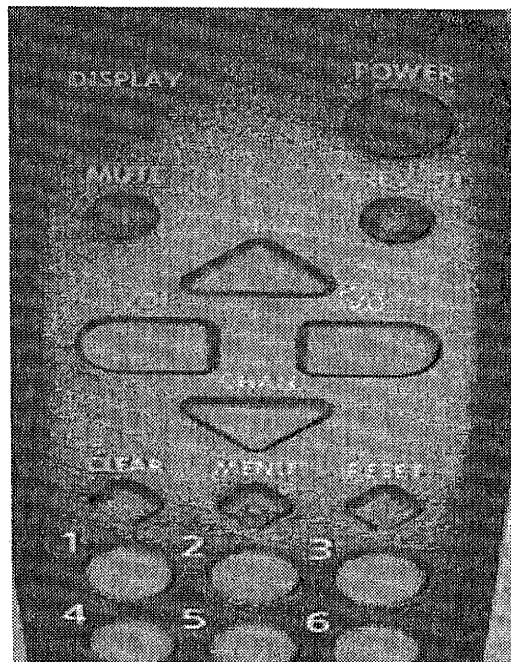
## TV On - Off Controls:

Once the TV monitor is raised, it can now be turned on. The TV monitor is operated by the TV remote. (See Photo Below) This remote is used to turn the TV on and off, as well as selecting the "video" mode.

## TV Operation:

1. While pointing the remote at the TV, press the "POWER" button once to turn the TV on.
2. Once on, press either the channel "UP" or "DOWN" button until "VIDEO" is displayed on the TV monitor. (This step only needs to be performed at start up or when the power is reset to the spa.)
3. To turn the TV monitor off, simply point the remote at the TV, press the "POWER" button once to turn the TV off.

NOTE: Volume and other remote features are not used. Volume is controlled through the stereo CD player.



**WARNING:** TV remote control is NOT waterproof or water resistant.

Water damage is not covered by the manufacturers warranty.

Please make sure that hands are dry before coming in contact with this or any electronic option.

# Cal Entertainment Center Operation (continued)

## Stereo / CD Player Operation:

The stereo CD player controls the TV, AM / FM Stereo, and CD volume.

The stereo features operate as any other stereo system would.

These instructions are to describe basic functions and TV interfacing.

Please see the stereo manufacturers operating instructions for other features and functions.

### Operation:

1. Press the "PWR / FUNCTION" button to turn the stereo on.
2. Press the "PWR / FUNCTION" button to change or cycle through operating modes.  
TUNER = AM / FM Modes CD = Compact Disk Mode AUXILIARY = VCR / DVD Mode
3. Rotate the volume knob clockwise to increase the volume and counterclockwise to lower the volume.



WARNING: Stereo and remote control are NOT waterproof or water resistant.

Water damage is not covered by the manufacturers warranty.

Please make sure that hands and CD's are dry before coming in contact with this or any electronic option.

# Cal Entertainment Center Operation (continued)

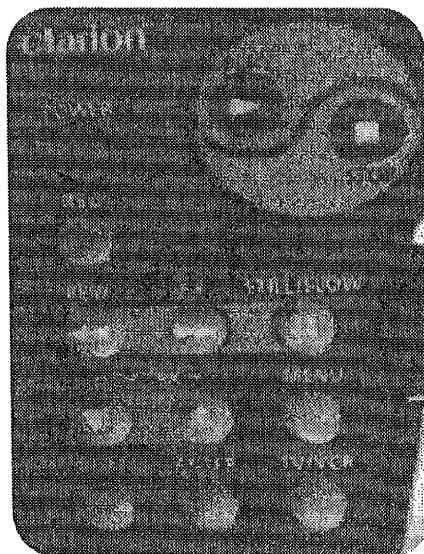
## VCR Operation:

This full function VCR system incorporates most of the features of the larger home versions. Either at the front of the VCR or with the full function remote control you can control the following features:

## Remote Control:

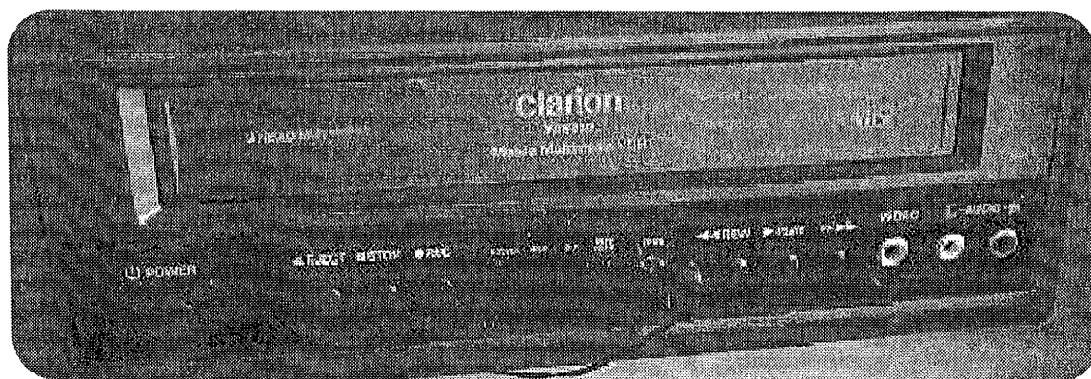
To operate, point the remote at either the front of the VCR or remote sensor located just below the TV monitor on the spa shell.

Power  
Play  
Stop  
Eject  
Record  
Channel Up & Down



Menu  
Fast Forward  
Rewind  
Tracking  
Still / Slow

## VCR Control Panel:



NOTE: VCR and remote control are not waterproof or water resistant. Water damage is not covered by the manufacturer's warranty. Please make sure that hands and video tapes are dry before coming in contact with this or any electronic option.

# Cal Entertainment Center Operation (continued)

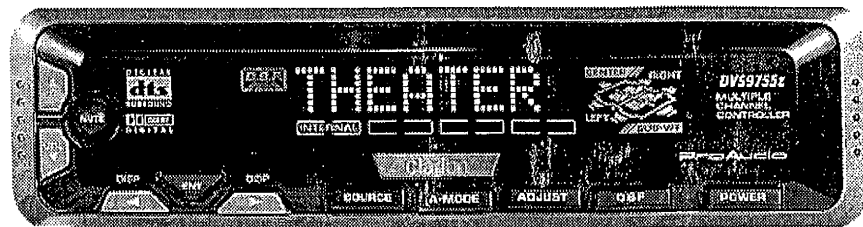
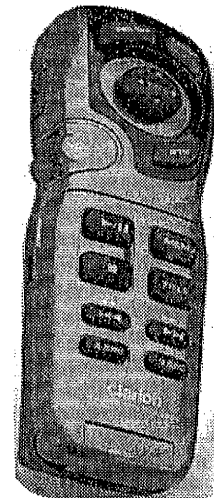
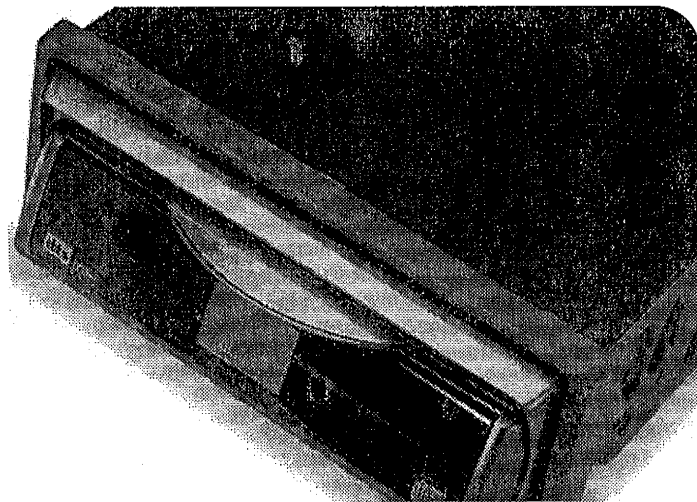
## Optional: DVD Player and Surround Sound Processor Operation

This system contains the DVD player and DVD Multi Channel Control. Not unlike your home theater system, the spa theater system allows the user to control theater surround modes like THEATER, LIVE, JAZZ CLUB, and more.

These instructions are to describe basic functions. Please see the DVD manufacturers operating instructions for other features and functions.

### Operation:

1. Press the **POWER** button on the Multi Channel Control to turn the system on.
2. Press the front face of the DVD player in to open and insert the DVD that you would like to view.
3. Press the front face of the DVD player to close the player.
4. Press the **SOURCE** button on the Multi Channel Control to the **INTERNAL** position.
5. Press the **VOL UP** button on the Multi Channel Control to Max.
6. Press the **DSP** button on the Multi Channel Control to the **JAZZ CLUB** position.
7. Point the remote at either the front of the Multi Channel Control or remote sensor located just below the TV monitor on the spa shell.
8. Use the Command Shuttle on the remote control to select feature (Up or Down) and press Command Shuttle to start movie.

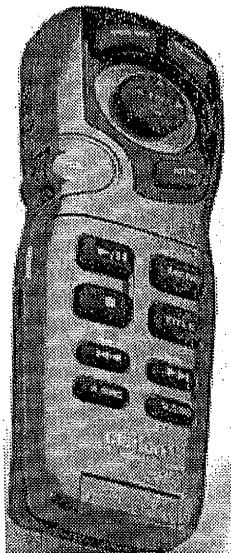
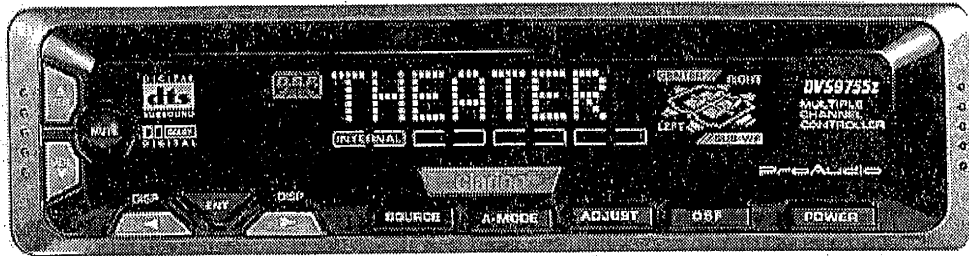


**WARNING:** DVD System and remote control are NOT waterproof or water resistant.  
Water damage is not covered by the manufacturers warranty.

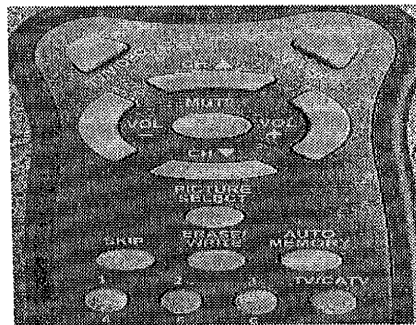
Please make sure that hands and DVD's are dry before coming in contact with this or any electronic option.

# DVD With Cable Ready Operation

## Tuner Control / Cable Ready Option



DVD Remote Control



Tuner Remote Control

### Instructions:

1. Turn on DVD system as mentioned on page 43/
2. Press the **A.SCR** button on the DVD Remote Control to switch the Audio from **INTERNAL** to **ANALOG 1**
3. Press the **V.SCR** button on the DVD Remote Control to switch the Video from **IN** to **OUT**
4. Press the **POWER** button on the Tuner Remote Control.
5. Press the Channel Up or Down buttons to select TV Channel.

#### Switching Back to DVD Operation:

1. Press the **A.SCR** button on the DVD Remote Control to switch the Audio from **ANALOG 1** back to **INTERNAL**.
2. Press the **V.SCR** button on the DVD Remote Control to switch the Video from **OUT** back to **IN**.

**WARNING:** DVD System, Tuner System and their remote controls are NOT waterproof or water resistant. Water damage is not covered by the manufacturers warranty. please make sure that hands and DVD's are dry before coming in contact with this or any electronic option.

# 2001 Warranty Information

C.A.I. warrants the 2001 model year Majestic, Fiesta, and promotional spas equipment for one year from the date of purchase, and 2001 Genesis, Premier, System, and Olympian spas equipment for five years from the date of purchase.

See your selling dealer for a copy of the applicable warranty, details, and any questions you may have regarding the warranty coverage on your spa.

**Warranty Limitations:** The 2001 Limited Warranty is voided if the spa has been subject to negligence, alteration, misuse, abuse, repairs by non C.A.I. authorized representatives, incorrect electrical installation, acts of God and any other cases beyond the control of C.A.I. Examples of common acts invalidating this warranty include but are not limited to:

Use of spa in a non-residential application.

Scratches caused by normal use.

Operation of spas water temperature outside of the range of 32°F and 118°F.

Damage caused by incorrect water level (Low, Overflow, Etc.).

Damage caused by extreme weather conditions. (Freeze, Heat, Etc.)

Damage caused by dirt, sand, and calcium.

Damage caused by clogged filter cartridges. See filter cleaning recommendations in this owner's manual.

Damage caused by continued operation of the spa with either a known or an unknown problem.

Damaged caused by tri-chlor, acids, chlorine tablets, and any other spa chemicals not authorized by C.A.I.

Damage caused by improper water chemistry. (High levels of chlorine, bromine, calcium, pH and other excessive chemical levels)

Damage caused by direct sunlight. Spas should always be covered when not in use.

Damage caused as a result of failure to follow operating instructions as defined in this owner's manual.

Damage caused by incorrect electrical installation, electrical brown outs, voltage spikes, or operation of spa out voltage range by more than + or - 10%.

Spas placed on non-approved surfaces. See page 7 in this Owner's manual for details.

This Limited Warranty applies only to spas normally used for personal, family, or household purposes.

## Warranty Exclusions:

Replaceable service items such as filters, pump seals, light bulbs, ozonator cartridge, towel warmers, jet inserts, pillows, stereo systems, televisions, DVD players, VCR players, spa covers, and filter covers are specifically excluded from the 2001 limited warranty.

C.A.I. warrants its standard electrical heater from defects in material and workmanship for a period of one year from the original date of purchase.

Spa covers and stereo systems are delivered with their own warranties from the manufactures. Please see these warranties in the owner's information package that was delivered with your spa.

**Customer Service:** For customer service, contact the authorized selling dealer immediately. If you need additional inform action or assistance, please contact the C.A.I Customer Relations Department at: 1462 East Ninth Street Pomona, CA 91766, or call 909-623-8781.

*The 2001 Limited Warranty is effective for spas manufactured after December 8, 2000.*

# Winterizing and Draining your Spa

In many areas of the country the temperature drops below 32°F. C.A.I recommends that you always have your spa full of water and running at normal spa temperatures (80°F to 100°F). This will help reduce the risk of freezing in your spa and your spas equipment.

## **IMPORTANT WARNING**

If you find the need to drain your spa, please be aware of the potential of freezing in your spas equipment and plumbing. Even if the directions below are followed perfectly, there is no guarantee that your spa will not suffer freeze damage.

### **Cold Climate Draining:**

Open all filter lids and filter baskets.

Remove filter(s).

Drain your spa completely.

Remove drain plugs from the front of pump(s).

Disconnect the unions from both sides of the pump.

Use a wet/dry vacuum to blow any remaining water out of the jets and plumbing lines.

Use a soft towel to remove any remaining water in the spa, filter canister, and equipment area.

Cover your spa with a good spa cover and all-weather tarp, to ensure rain or snow cannot enter the spa.

If your have a Gas Heater, you will need to follow the winterizing instructions for your particular heater in the owner's manual. This manual will be delivered inside your gas heater.

### **Draining Your Spa:**

Your spa should be drained every 4 to 6 months, and refilled with fresh tap water.

The following is the recommended method for draining your spa.

Portable Spas

Turn off power.

Open all filter lids and filter baskets.

Remove filter(s).

Hook up the female end of a garden hose to the spas drain fitting and the other end in a convenient place for draining.

\*(Locate yellow drain fitting in the bottom of the equipment area, remove cap and connect garden hose and open valve to begin draining.)

Let spa drain completely, then remove garden hose and replace the drain cap.