

LIMITED WARRANTY

ONE YEAR LIMITED WARRANTY: UNITED SPAS, INC. warrants, to the original purchaser, the Spa Equipment against defects in materials or workmanship for a period of one year from date of purchase. The obligation of this warranty shall be limited to repairing or replacing the part, which in the opinion of the company shall be proved defective in materials or workmanship. This limited warranty does not include the limitations described below.

LIMITATIONS OF COVERAGE: This warranty does not cover failures due to: damage, freezing, power failure, power reduction, unusual atmospheric conditions, rust or corrosion, repairs necessary because of operator negligence improper re-packaging and damage incurred in shipping. This warranty does not cover thermostat calibration, plumbing, expendable items (gaskets, o-rings, filter cartridges).

ACTS INVALIDATING WARRANTY: This warranty shall be invalid if this equipment has been subjected to alterations, misuses or abuse, improper water chemistry maintenance or used for commercial purposes (used in other than single family household purposes). Misuse and abuse shall include application installation or operation outside of the environment and limitations for which it was designed, or other than in accordance with United Spas or the spa manufacturer printed instructions. This warranty shall also be invalid if the spa equipment is damaged by earth or ground fill movement, fire, flood, wind, lightning, by Act of God, accident, or by intentional, reckless, or negligent acts any person.

WARRANTY PERFORMANCE: All warranty service and/or replacement of parts must be performed by an individual or service company that has been authorized by United Spas. The purchaser may obtain the benefits of warranty coverage on a failed part by having the servicing company remove the part and send it for inspection, along with proof of purchase and field service report, freight pre-paid, to: United Spas 2480-A N. Glassell St., Orange, CA 92865 If the failure is covered by the warranty, there will be no charge for the repaired or replacement part. Removal/re-installation charges and freight charges to and from United Spas of the failed part shall be the purchaser's responsibility. Any such warranty replacement or repair shall be subject to the terms and condition of this warranty for the remainder of the original period of coverage. United Spas reserves the right to inspect the malfunction or defect on location.

DISCLAIMERS, LEGAL REMEDIES: United Spas shall not be liable for the loss of use of any equipment. This warranty is in lieu of all other expressed warranties obligations or liabilities, any implied warranty of merchantability, shall be limited in duration to the duration of this written limited warranty. Any action for breach of warranty hereunder, including but not limited to, any applied warranty of merchantability must be brought within a period of 12 months from date of purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. No agent, representative, dealer or employee of the company has the authority to increase or alter the obligations of this warranty. In no case shall the company be liable for any incidental or consequential from state to state. United Spas does not authorize any person or company to assume for it any other obligation or liability in connection with the sale, application, engineering, damages for breach of this of any other warranty, expressed or implied, whatsoever. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary installation use, removal, return, or replacement of it's systems: and no such representations are binding on United Spas.

E-mail: support@unitedspas.com

UNITED SPAS



3A

Spa Control System

OWNER'S MANUAL

www.unitedspas.com

TABLE OF CONTENTS

1 Important Safety Installation

4 Installation Instructions

4 120 Volt Installation “ Cord Connected”

4 120 Volt Installation “ Permanently Connected”

4 240 Volt Installation “ Permanently Connected”

5 Control System Overview

6 Operating Instructions

6 Control Panel

6 Light Button

6 Blower Button

6 Jets 1 Button

6 Jets 2 Button

6 Top Side Control

7 Temperature Control

7 Spa Water Temperature Setting

7 High Limit Switch

7 Heater Indicator

7 Power Indicator

8 Air Controls

8 Time Clock

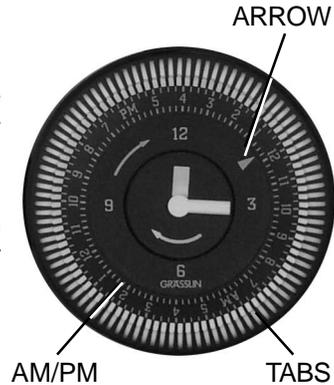
8 Filtration Switch

AIR CONTROLS

Some spas are equipped with two or more air controls located next to the control panel. Turning the knob clockwise will allow air to enter the water jets increasing the water pressure for maximum hydrotherapy action from each of the spa jets

TIME CLOCK (Optional)

When the time clock reaches an ON time, the LOW speed pump and the ozone generator will operate. If the thermostat is calling for heat, the heater will turn ON. When the water reaches the desired temperature the thermostat will turn OFF the heater. When the Filtering Timer reaches an OFF time, the LOW speed pump and the ozone generator will turn off.



1. Set time of the day by turning the dial clockwise until the arrow lines up with the appropriate hour on the dial (AM/PM).
2. Set the time you want the spa to start up, and the amount of time you want it to operate, by pushing the tabs away from the center of the timer.

NOTE: In the event of a power outage, it will be necessary to reset the time of the day on the timer.

FILTRATION SWITCH

1. **Timer Position:** The low speed pump will operate as determined by the setting of the timer tabs.

2. **24-Hour Position:** The low speed pump will operate continuously.

3. **24-Hour Position (Optional):** The low speed pump will operate as determined by the setting of the thermostat.



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

INSTALLATION CONSIDERATIONS

1. **TO REDUCE THE RISK OF ELECTRIC SHOCK.**
A ground lug marked "GROUND" is provided within the spa electrical control box. Connect this lug to the grounding terminal of the electric service or supply panel with a continuous copper wire equivalent in size to the circuit conductors supplying this equipment.
 2. **TO REDUCE THE RISK OF ELECTRIC SHOCK.** Bonding lugs marked "BONDING LUGS" are provided on the right side of the spa electrical control box to permit connection of a minimum No. 8 AWG solid copper bonding conductor between this point and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit within 5 feet (1.5 m) of the unit.
 3. **DANGER - RISK OF ELECTRIC SHOCK.**
Install at least 5 feet (1.5 m) from all metal surfaces.
 4. Install to provide drainage of compartment for electrical components.
- ### FOR CORD AND PLUG CONNECTED SPAS
5. Connect to a grounded, grounding type receptacle only. Never, for any reason, modify the attachment plug to fit other than a grounded, 120 V., 20 A. receptacle.
 6. **WARNING** - To reduce the risk of electric shock, replace a frayed or damaged power cord immediately.
 7. Do not use an extension cord. Use of an extension cord will seriously degrade the performance of the spa, and can create a serious electrical hazard.

- 8 This spa may be equipped with a ground-fault circuit-interrupter (GFCI) mounted on the front of the electrical control box or at the electrical power supply panel. Before each use, with the plug connected to the power supply and with the unit operating, push the test button. The unit should stop operating and the reset button should appear. Push the reset button. The unit should now operate normally. If the interrupter fails to operate in this manner, there is a ground current flowing indicating the possibility of an electric shock. Disconnect the plug from the receptacle until the fault has been identified.



FOR PERMANENTLY CONNECTED SPAS

- 9 The electrical supply for this product must include a suitably rated switch or circuit breaker to open all ungrounded supply conductors to comply with Section 422-20 of the National Electrical Code, ANSI/NFPA 70-1987. The disconnecting means must be readily accessible to the tub occupant but installed at least 5 feet (1.5 m) from tub water.

OPERATING PRECAUTIONS.

- 10 **DANGER** - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- 11 **WARNING - RISK OF CHILD DROWNING.** Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use a spa or hot tub unless they are supervised at all times.
- 12 **DANGER** - To reduce the risk of injury to persons, do not remove suction fittings.
- 13 **DANGER-RISK OF ELECTRIC SHOCK.** Do not permit any electric appliance, such as a light, telephone, radio, or television, within 5 feet (1.5 m) of the spa.
- 14 **TO REDUCE THE RISK OF INJURY:**
- A. The water in a spa or hot tub should never exceed 40° C (104° F). Water temperatures between 38° C (100° F) and 40° C (104° F) are considered safe for a healthy adult. Lower water temperatures are recommended for extended use (exceeding 10-15 minutes) and for young children.

TEMPERATURE CONTROL

Do not expect to feel hot water immediately coming from the jets. These highly efficient heaters are designed to provide cost-saving, low level heating. Initially the spa will take about 20 hours to heat if the heater is running on 120 volt and it will take about 5 hours if the heater is running on 240 volt. These performance figures are based on an average sized, fully insulated portable spa with a 2" to 3" thick insulated spa cover. Turning the thermostat fully clockwise will heat the water to a maximum temperature of approximately 104° F. Turning the thermostat counter clockwise will keep the water from dropping below 40° F.



THERMOSTAT

SPA WATER TEMPERATURE SETTING

Turn the thermostat knob clockwise to any position to turn the heater on. Use an accurate thermometer in the water to monitor the water temperature. When the heater shuts off, the water temperature has reached the desired setting. Check the temperature read out on the thermometer to see if it is comfortable to use.

HIGH LIMIT

The high limit safety switch will shut the system off if the temperature of the water reaches 117° F. After the heater cools sufficiently, reset the switch by pressing on the high limit red button. If the high limit trips repeatedly, do not use the spa until the problem has been repaired.

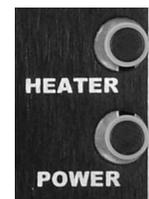


HEATER INDICATOR:

The heater light will light up when the heater is operating.

POWER INDICATOR:

The power light will light up when the electric power to the spa is ON.



OPERATING INSTRUCTIONS

LIGHT BUTTON:

Pushing the Light button will turn the spa light on or off.

AIR BLOWER BUTTON:

Pushing the Air Blower button will turn the Air Blower on or off.

JETS-1 BUTTON:

Mode 1: The low speed pump and heater will operate as described under the time clock and the freeze protection switch operations.

Mode 2: The pump will operate in high speed and Jets Indicator light (Optional) will light. The heater will operate only when the Equipment Module is connected to 240 volt 50 amp electrical service.



JETS-2 BUTTON:

Pushing this button will turn the additional pump on or off. When the second jet pump is ON, additional hydrotherapy jet action will be provided.

TOP SIDE CONTROL (Optional):

The temperature of the water within the spa is controlled by the setting of the Thermostat. Any time the heater is on, the Heat Indicator light will light. When the desired water temperature has been reached the Ready Indicator light will light and heater will turn off (see additional comments under Temperature Control).



- B. Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, pregnant or possibly pregnant women should limit spa or hot tub water temperatures to 38° C (100° F).
 - C. Before entering a spa or hot tub, the user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices may vary as much as plus minus 3° C (5° F).
 - D. The use of alcohol, drugs, or medication before or during spa or hot tub 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 before using a spa or hot tub.
 - F. Persons using medication should consult a physician before using a spa or hot tub since some medication may induce drowsiness while other medication may affect heart rate, blood pressure, and circulation.
- 15 Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6° F (37° C). The symptoms of hyperthermia include drowsiness, lethargy, and an increase in the internal temperature of the body.
- Effects:
- 1- Unawareness of impending hazard.
 - 2- Fetal damage in pregnant women.
 - 3- Failure to recognize the need to exit spa.
 - 4- Physical inability to exit spa.
 - 5- Unconsciousness and danger of drowning.
 - 6- Failure to perceive heat.
- 16 **WARNING.** The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in spas.
- 17 **CAUTION:** Water temperature in excess of 38° C (100° F) may be injurious to your health.

SAVE THESE INSTRUCTIONS

READ ALL INSTRUCTIONS CONTAINED IN THIS OWNER'S MANUAL
BEFORE BEGINNING INSTALLATION

INSTALLATION INSTRUCTIONS

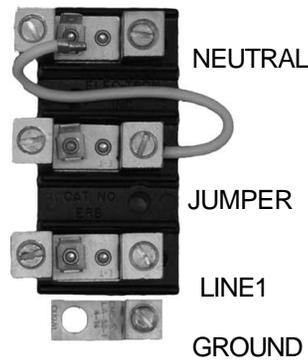
120 V. INSTALLATION

(Cord And plug Connected Units)
Equipment Modules provided with a factory installed power cord are to be plugged into a grounding type, 120 volt, 20 ampere receptacle. The use of any other receptacle, or the connection of the plug to a 240 volt service will cause the Equipment Module to operate improperly, create the potential for an electrical hazard, and will void the warranty.



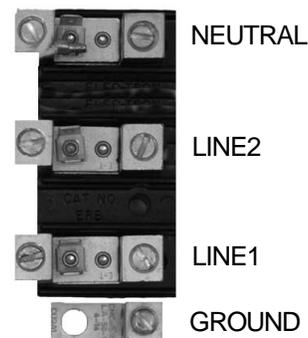
120 V. INSTALLATION

(Permanently Connected Units)
Units to be operated at 120 volt must be properly wired for 120 volt, 20 amps. all electrical connections accomplished by a qualified electrician in accordance with the National Electrical Code or the Canadian Electrical Code, and other electrical codes at the time of installation. Equipment modules installed for 120 volt operation require a two wire electrical service, plus ground. (line 1, black), (neutral, white), and (ground, green). Refer to terminal block diagram.



240 V. INSTALLATION

Units to be operated at 240 volt must have all electrical connections accomplished by a qualified electrician in accordance with the National Electrical Code or the Canadian Electrical Code, and other electrical codes at the time of installation. All connections must be made with copper conductors. The conductors and circuit breaker or fuses must be sized to accommodate the total amperage load as specified on the Equipment Module data label. Equipment Modules installed for 240 volt operation require a three wire electrical service, plus ground. (line 1, black), (line 2, red), (neutral, white), and (ground, green).



CONTROL SYSTEM OVERVIEW

