

OWNERS MANUAL

**USE THIS SERIAL NUMBER WHEN CALLING FOR TECHNICAL
ASSISTANCE AT 1-800-741-3575**

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Owner's Record

Data Purchased _____

Purchased From _____

Installed By _____

Spa Serial Number _____ Model # _____

The following instructions are required by Underwriters Laboratories (UL) to be printed as a condition of their listing this product. They contain important safety information we strongly urge you to read & apply.

IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS

1. **WARNING** - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
2. **DANGER** - A wire connector is provided on this unit to connect a minimum No. 8 AWG (8.4mm²) solid copper conductor between unit and any metal equipment, metal enclosures of electrical equipment, metal water pipe, or conduit, if that item is located within 5 feet (1.5m) of the unit.
3. **DANGER** -Risk of Accidental Drowning: Extreme caution must be exercised to prevent unauthorized access by children. To avoid accidents, ensure that children cannot use this spa unless they are supervised at all times.
4. **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.
5. **DANGER** - Risk of Electric Shock: Install at least 6 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 connected by a minimum No. 8 AWG (8.4mm²) solid copper conductor to the wire connector on the terminal box that is provided for this purpose.
6. **DANGER** - Risk of Electric Shock: Do not permit any electrical appliance, such as a light, telephone, radio or television within 5 feet (1.5m) of the spa.

7. **WARNING** - To reduce the risk of injury. The water in a spa 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 young children and when spa use exceeds 10 minutes.
- Since excessive water temperatures have a high potential for causing fetal damage during early pregnancy, pregnant or possibly pregnant women should limit water temperatures to 38°C (100°F). **Before entering a spa, the user should measure the water temperature with an accurate thermometer. (The tolerances of water temperature-regulating devices vary.)**
- The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.
- Persons suffering from obesity, medical history of heart disease, low/high blood pressure, circulatory system problems, or diabetes, should consult a physician before using a spa.
- Persons using medication should consult a physician before using a spa because some medications induce drowsiness while others may affect heart rate, blood pressure, and circulation.
8. **DANGER** - Prolonged immersion in hot water may induce hyperthermia. The causes, symptoms and effects of hyperthermia may be described as follows: Hyper thermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6°F. The symptoms of hyperthermia include:
- a. Failure to perceive heat
 - b. Failure to recognize the need to exit spa or hot tub
 - c. Unawareness of impending hazard
 - d. Fetal damage in pregnant women
 - e. Physical inability to exit the spa or hot tub
 - f. Unconsciousness resulting in the danger of drowning

WARNING - THE USE OF ALCOHOL, DRUGS OR MEDICATION CAN GREATLY INCREASE THE RISK OF FATAL HYPERTHERMIA.

SAVE THESE INSTRUCTIONS

LOCATION

The location of your spa is very important in order for you to achieve maximum enjoyment. Please consider the following:

OUTDOOR LOCATION

1. Consider local codes pertaining to fencing, enclosures, walls, electrical and plumbing. You will need to ensure that your spa is an adequate distance from power lines, both above ground and underground. Your spa will also need to be childproof (covered and of adequate height). Gates or doors must be self-closing or self-locking.
2. Locate the spa with an awareness to sunlight exposure, views, access, lot lines, lighting, wind direction, shielding, septic tanks, plants and trees (chemicals in the spa water splashed from your spa may damage plant life).
3. Provide adequate drainage away from the equipment.
4. Place the spa on a firm, level surface able to support a minimum of 90 pounds per square foot without shifting.
5. It is the responsibility of the owner to provide clear access on all sides of the spa once it is set in place. This will ensure ease of access for repairs should they become necessary. If clear access to all sides of the spa is not provided, additional repair cost could be incurred.

DECK LOCATION

1. Should you desire to locate your spa on a deck, **the deck should be designed to hold a minimum of 90 pounds per square foot.** Consult a qualified building contractor or a structural engineer to ensure the deck is able to support the increased load. **Your spa is engineered/manufactured for above ground or deck use and not for recessing or in ground installation.**

INDOOR LOCATION

1. **The floor under the spa must be able to support at least 90 pounds per square foot.**
2. During the normal use of the spa, water will escape the spa vessel. Never place the spa on or over any material that may be damaged by this water or the chemicals within this water. Keep damageable materials far enough away from the spa to avoid water damage.
3. Furniture, wall coverings etc., within the room in which the spa is to be located must be able to withstand the effects of high humidity. Adequate ventilation must be provided, whether through cross-ventilation or a dehumidifier, to prevent damage to the structure. In cold climates, double glazing windows will help to reduce condensation.

SPA EQUIPMENT SYSTEM

The system consists of a double speed pump that along with an ozone generator (option), provides filtration and oxidation of the spa water and (optional) a single speed pump. Both pumps provide hydrotherapy jet action. Each spa is equipped with an electrical heater and mood lighting. Some models are equipped with an air blower for hydrotherapy bubble action (see electrical system drawing).

A digital spa topside control and electrical control box with circuit board inside provides control and protections of the spa equipment.

DOUBLE SPEED PUMP

Your spa features a double speed pump for hydrotherapy jet action at High/Low speed, and is controlled by the "JETS 1" on the topside control. Follow the instructions under TOPSIDE CONTROL OPERATING INSTRUCTIONS ("Jets1" buttons). The low speed jets is either controlled by the thermostat during Standard Mode operation, or by the filtration cycle timer.

SINGLE SPEED PUMP

Your spa features a single speed pump (if equipped with a single speed pump) for hydrotherapy jet action and is controlled by the "JETS 2" on the topside control. Follow the instructions under TOPSIDE CONTROL OPERATING INSTRUCTIONS ("Jets2" button)..

HEATER

Your spa is equipped with an electrical heater. By setting your thermostat to the desired temperature, your heater will automatically turn on and off as needed. This is not only convenient, it is energy efficient.

The spa will maintain the water temperature as required and does not depend on the filtration cycle to heat.

Note: Units connected to 115volt, 20(15)amp services will heat only when Jets1 (High) is off.

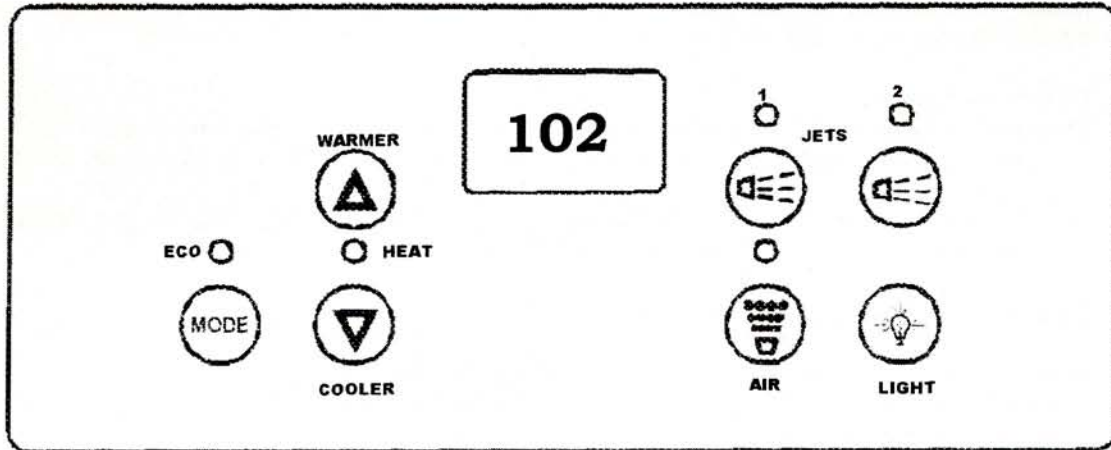
DIGITAL TOPSIDE CONTROL

Your spa is equipped with a Digital Topside Control located on the top of the spa. The Topside Control provides all control functions of the spa equipment (pumps, blower, light, heater). For more details follow the TOPSIDE CONTROL OPERATING INSTRUCTIONS and CONTROL SYSTEM FEATURES.

OZONE GENERATOR

Ozone is injected into the spa water during the filtration cycle. The ozone generator (if equipped) operates in conjunction with Low speed pump operation. The ozone is injected into the water to supplement chemical sanitizers, kill bacteria, oxidize organics, and control minerals. Anytime the pump, the air blower, or the light is turned on, the ozone generator will turn off.

TOPSIDE CONTROL OPERATING INSTRUCTIONS



Warmer and Cooler buttons

The spa's thermostat provides you with optimum control of the spa water temperature. This temperature set point can be adjusted from 65deg F to 104deg F.

Current water temperature is displayed on the digital LED readout. The set-point temperature may be displayed by pressing and releasing the "WARMER" or "COOLER" buttons. The set-point temperature may be changed by pressing and holding either the "WARMER" or "COOLER" buttons until the desired set-point is achieved. At this moment you can watch the "HEAT" LED blink, showing the set-point change. When the temperature adjust buttons are released, and after a short delay, the digital display begins reading water temperature again. Continuing to hold either button allows scrolling to the desired temperature at a rate of 1deg F per second. Incremental adjustment is achieved by repeatedly pressing the "WARMER" or "COOLER" adjustment buttons.

When the desired water temperature is reached, the heater will automatically maintain that temperature. When the heater is on, the LED designated "HEAT" is illuminated.

Temperature control accuracy is +/- 1deg F.

Jets 1 button

The control panel button designated "JETS 1" activates **the double speed pump** when pressed. The pump 1 (High), when the "JETS 1" button is manually pressed, has a twenty minute time-out. If the "JETS 1" button is pressed again prior to completion of the 20 minute time-out, pump 1(Low) will be activated. If the "JETS 1" button is pressed again pump 1 will be deactivated and the time-out reset.

The pump 1 sequence is **High speed, Low speed, Off.**

The control has been designed to delay the selected spa device from turning on for two-three seconds.

When the Double speed pump is at High speed operation, the LED "JETS 1" is illuminated, when is Low speed operation, the LED "JETS 1" is flashing.

Note: If the Low speed pump is running and the heater indicator "HEAT" is off, the system is in a filter mode

Jets 2 button (optional)

The control panel button designated "JETS 2" activates **the single speed pump** when pressed. The pump 2, when the "JETS 2" button is manually pressed, has a twenty minute time-out. If the "JETS 2" button is pressed again prior to completion of the 20 minute time-out, the pump 2 will be deactivated and the time-out reset.

When pump 2 is in operation, the LED "JETS 2" is illuminated.

Air Jets button (optional)

The control panel button designated "Air" activates **the air blower** when pressed. The air blower, when the "Air" button is manually pressed, has twenty minute time-out. If the "Air" button pressed again prior to completion of the 20 minute time-out, the air blower will be deactivated and the time-out reset. When the air blower is in operation, the LED "Air" is illuminated.

Light button

The control panel button designated "LIGHT" **activates the spa light** when pressed. The light has a forty minute time-out. If the "LIGHT" button is pressed again prior to completion of the 40 minute time-out, the light will be deactivated and the time-out reset.

ECO Mode button

The button designated "ECO" switches the system between the Standard and Economy modes.

In Standard mode, the spa will be heated automatically to the set temperature and maintain that temperature.

In the Economy mode the Heater is disabled, the "JETS 1", "JETS 2", "AIR", "LIGHT" can be activated.

In the Economy mode, the LED designated "ECO" will illuminate.

Changing The Filter Cycles/Water Filtration**Proper filtration is an important key to maintaining the clarity of your spa's water.**

The filter system is designed for unsurpassed effectiveness at removing debris and suspensions from the water anytime the water is circulating.

The system comes with seven preprogrammed filtration cycles. They are:

On 2hours/Off 10hours – 2-9; (9 instead 10 because only "3" digits readout)

On 2hours/Off 6hours – 2-6;

On 2hours/Off 4hours – 2-4;

On 2hours/Off 2hours – 2-2;

On 4hours/Off 2hours – 4-2;

On 6hours/Off 2hours – 6-2;

Activated all the time – On.

To change the filter cycles, the user must press and hold the "Light" button for five (5) seconds until one of these messages is shown on the LED readout:

2-9 (On 2hours/Off 10hours);

2-6 (On 2hours/Off 6hours);

2-4 (On 2hours/Off 4hours);

2-2 (On 2hours/Off 2hours);

4-2 (On 4hours/Off 2hours);

6-2 (On 6hours/Off 2hours);

On (Activated all the time).

To change configuration, the user uses the "WARMER" or "COOLER" pushbutton. The system will go back to the normal display after five (5) seconds if the pushbutton has not been pressed.

2 hours On/4 hours off is manufacture default setting.

When a filter cycle is in process, the "JETS 1" LED is flashing. When either the single speed pump or the blower is turned on by user during a filter cycle, the filtration cycle will interrupted and will only resume with next active filter cycle.

ERROR MESSAGES

The control system is a self-diagnostic system. The system will automatically display the error messages in the topside control window, if a problem is detected.

"dCP"- The system checks for DC power relay(master control relay) activity. Code **"dCP"** is displayed if error is found. This message can appear after house power interruption or lightning. This must be repaired by the service technician.

"HtS" - System checks the integrity or short of the heater enclosure temperature sensor. If the temperature sensor is opened and an error is detected, the topside control displays the code **"HtS"**- **Water Temp-"HtS"**-. Heater is deactivated. Jets 1 is deactivated. **Automatic reset** will occur after the open sensor condition is fixed.

If the temperature sensor is closed and an error is detected, the topside control displays code **"HtS"**- **"OHt"**- **Water Temp"**-**"HtS"**-. The entire system is disabled. **Manual reset** requests after short sensor condition is fixed.

This must be repaired by the service technician.

“tS” - System checks the integrity or short of the water temperature sensor. If the temperature sensor is opened and an error is detected, the topside control displays the code **“tS”-0-“tS”-**. Heater is deactivated. Jets 1 is deactivated. **Automatic reset** will occur after the open sensor condition is fixed. If the temperature sensor is closed and an error is detected, the topside control displays the code **“tS”-255-“Ht”-“OHt”-“tS”-**. The entire system is disabled. **Manual reset** requests after short sensor condition is fixed. This must be repaired by the service technician.

“PS2” - System checks the pressure switch for switch open with the low or high speed pump 1 de-energized. If the error is detected, the topside control displays the code **“PS2” –Water Temp-“PS2”**. Heater is deactivated. **Automatic reset** will occur if this condition is fixed. Pressure switch may be need to be adjusted or water level in the spa is too high. If the condition is not corrected, please contact the manufacturer.

“PS1” - System checks the pressure switch for switch closure with the low or high speed pump 1 energized. If an error is detected the topside control displays **“PS1”-Water Temp-“PS1”-**. Heater is deactivated. **Automatic reset** will occur if this condition is fixed within 150 seconds. After 150 seconds Jets 1 is deactivated. **Manual reset** is requested if this condition had existed more than 150 seconds. Pressure switch may need to be adjusted . The filters usually need to be cleaned. If the condition is not corrected, please contact the manufacturer.

“FC” - Freeze condition. The system checks the water temperature for a reading at or below 55 deg F. If an error is detected, the topside control displays the code **“FC” –Water Temp-“FC”-**. A potential freeze condition has been detected (55° F or below). No action required. The system will automatically energize the heater. The heater will be energized even in the “ECO” mode. The spa will automatically bring the water temperature up until the spa is out of danger. When the water temperature in the spa is equal to or less than 50 °F both pump relays are energized for 5 minutes (High speed). Heater is deactivated during this time. Then system will automatically energize the heater and Low speed pump 1 for 20 minutes. Pump 2 is deactivated during this time and these cycles are repeated as long as water temperature is equal to or below 51°F. The topside control displays the code **“FC”-Water Temp-“FC”**

“Ht” - High temperature condition. System checks for the spa water temperature equal to or above 110deg F. If water temperature equal to or above 110deg F is detected, the topside control LED readout flashes between the spa water temperature and **“Ht”**. The Air Blower (if equipped) is automatically energized to assist in lowering water temperature, when equal to or greater than 110deg F spa water temperature is detected. The Jets 1 and Jets 2 are deactivated. The blower will be deactivated after the spa water temperature drops below 107deg F.

This case may be due to excessive double and (or) single speed pump(s) operation, i.e. resetting the Jets 1, Jets 2 (if equipped) continuously after each 20 minute shut down cycle until the spa water reaches this temperature. **Allow time for the system to reset the spa.**

If the condition is not corrected, please contact the manufacturer.

“OHt” - Overheating condition/watchdog.

System checks for the spa water temperature equal to or above 120deg F or the heater enclosure temperature is equal to or above 125deg F. If either the spa water temperature is equal to or above 120deg F or the heater enclosure temperature is equal to or above 125deg F , the topside control display flashes **“OHt” –Water Temp-“OHt”** and the entire system is disabled.

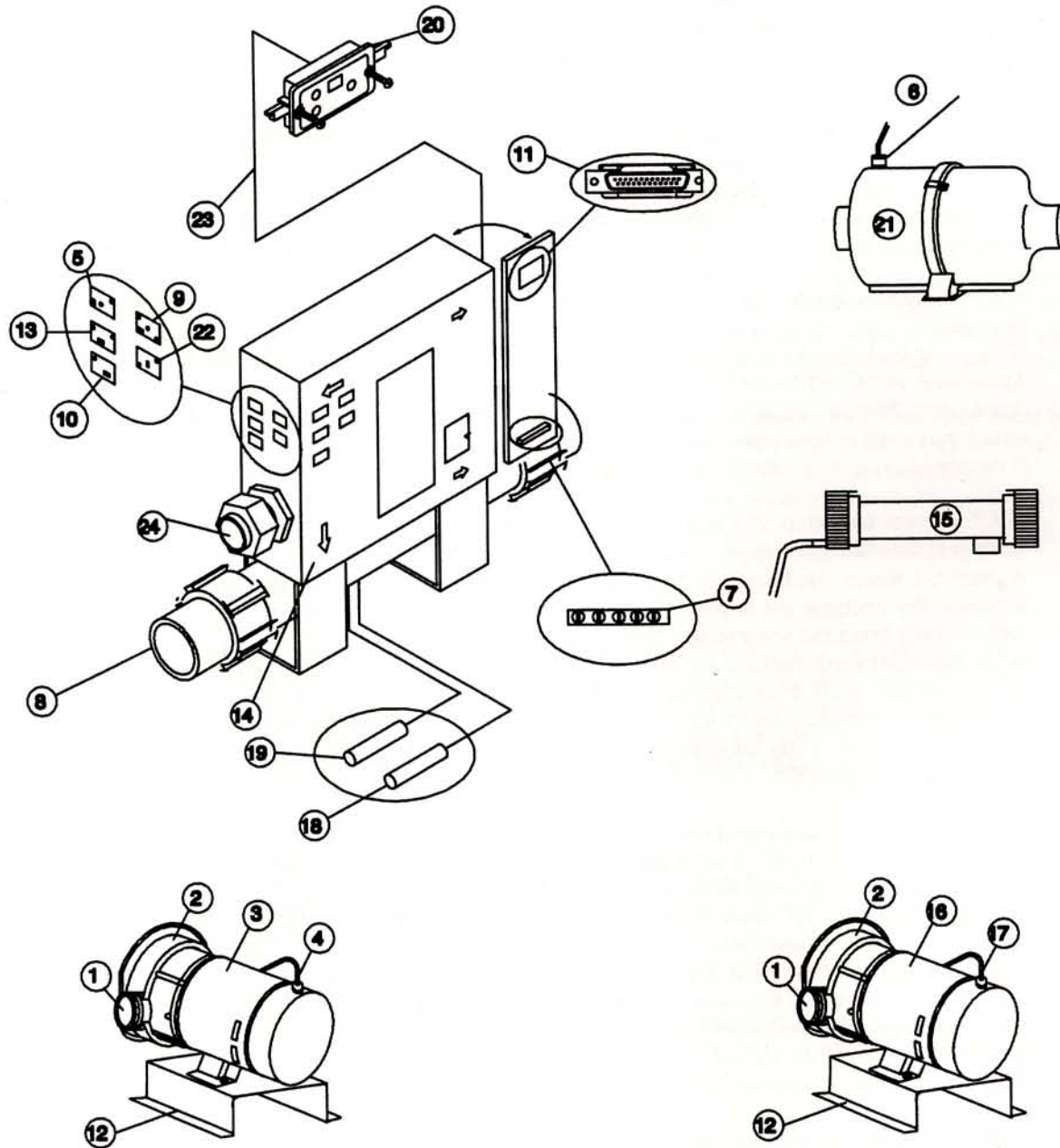
“OHt” condition requires **Manual Reset** action either by pushing the “WARMER” and “COOLER” buttons simultaneously, or by turning the main power off and then back on.

The heater or water high limit switch cannot be reset until the heater enclosure temperature drops below 123deg F or water temperature in the spa drops below 117deg F.

This must be repaired by the service technician.

Notes: For manual reset action to push the **“WARMER”** and **“COOLER”** buttons simultaneously or turn the main power off and then back on.

ELECTRICAL SYSTEM



1. DISCHARGE UNION
2. PUMP WETEND
3. DOUBLE SPEED PUMP MOTOR
4. DOUBLE SPEED PUMP CORD
5. BLOWER RECEPTACLE*
6. BLOWER CORD*
7. GROUNDING BAR
8. STAINLESS STEEL HEATER
9. DOUBLE SPEED PUMP RECEPTACLE
10. LIGHT RECEPTACLE
11. SIDE CONTROL PORT CONNECTION
12. PUMP BASE
13. OZONATOR RECEPTACLE*

14. ELECTRIC CONTROL PACK
15. OZONATOR
16. SINGLE SPEED PUMP MOTOR
17. SINGLE SPEED PUMP CORD
18. TEMPERATURE SENSOR (T.S.)
19. HI-LIMIT SENSOR (H.T.S.)
20. SIDE CONTROL
21. BLOWER
22. SINGLE SPEED PUMP RECEPTACLE
23. SIDE CONTROL INTERCONNECT CABLE
24. LIQUID TIGHT CONNECTOR 1"

* IF SO EQUIPPED

CONTROL SYSTEM FEATURES

High Temperature Limit protection

Water High Temperature Limit protection disables all relays when spa water temperature is equal to or greater than 120deg F. This condition requires manual reset by pushing the "WARMER" and "COOLER" buttons simultaneously, or by turning the power off and then back on to reset the High Limit. The water High Temperature Limit protection cannot be reset until the spa water temperature drops below 117deg F. Heater High Temperature Limit protection disables all relays when the heater enclosure temperature reaches 125deg F or greater. The heater High Temperature Limit cannot be reset until the heater enclosure temperature drops below 123deg F. This condition requires manual reset by pushing the "WARMER" and "COOLER" buttons simultaneously, or by turning the power off and then back on to reset the HL Relays.

Water and air channel clean-out cycle setting (Clean-out mode selector)

To keep the water from becoming stagnant in the plumbing lines and spa, the JETS2 and will automatically turn on for 5 minutes of operation if the jet pump 2 has not been energized in any forty eight hour period (options 24hour). **Default factory setting is 48hour.**

Ozone generator operation setting (Ozone mode selector)

Ozonator operating setting **continuous with Low speed operating** is pre-set at the factory.

Temperature set-point lockout (Temperature lock selector)

The temperature set-point lockout feature prevents unauthorized temperature adjustment of your spa water. The default factory setting of the temperature set-point lockout is unlock. To lock your temperature set-point, follow the instructions below:

Pressing and holding the "WARMER" and "COOLER" buttons, press the "Light" button. The light is on. Your thermostat is locked. You can press "light" button again and the light will go off.

To unlock the temperature set point to repeat the same procedure.

20/50amp setting (Heater mode selector)

On all convertible spa models assembled for **115vac the default factory setting is the 20amps mode** (JP2/8 -on). The heater is inactive when Jets 1 and (or), Jets 2 is energized.

If your spa is converted for **230vac operation, the jumper J2/8 must be removed** (J2/8 - off). For more information about conversion of your spa, follow the instructions in **CONVERSION INSTRUCTION 115 VAC TO 230 VAC.**

On all 230vac models default factory setting is 50 amps mode (J2/8 is off).

The heater is active when Jets 1 and (or), Jets 2 is energized.

INSTALLATION INSTRUCTIONS

Your spa, as it comes from the factory, has either a 120vac GFCI equipped 12/3 or 14/3 line cord, or is designed for 240vac circuit.

SPA WITH 120VAC, 15 or 20AMP GFCI PLUG

Your spa, as it comes from factory, requires a 120vac (15 or 20amp) electrical outlet and must be in a grounded separate circuit having no other appliance connected in that circuit. If you do not have a 120vac, 20(15)amp circuit, a qualified electrician should be called in to install the necessary wiring and equipment. Run the proper size wire in conduit from dedicated circuit breaker (see chart below) to the equipment package. The circuit must have a ground wire. A bond wire must also be used.

ELECTRICAL PRECAUTIONS

- 1.The spa is supplied with 15 foot 12/3 or 14/3 line cord which terminates with a GROUND FAULT CIRCUIT INTERRUPTER (GFCI) plug, locate the spa near enough to a weather protected outlet, but no closer than 10 feet.
- 2.Bring the line cord out from under the skirt.
- 3.Do not use an extension cord
- 4.Do not modify GFCI cord in any way
- 5.Make sure the line cord does not lie across a walkway or in a heavily traveled area
- 6.Do not locate lighting fixtures directly above the spa. If lighting is located within 5 feet of the spa, it must be on a circuit protected by a GFCI
- 7.Do not use electrically connected devices, such as TV, radio, telephones, or cooking devices within 5 feet of the spa while the spa is being used
- 8.All fixed metal objects located within 5 feet of the spa, such as fence posts, railing, door frames, gutters, etc., must be attached to the bonding bar on the outside of the electrical control pack using #8 solid copper wire.
- 9.If you wish to operate your spa on 240vac, the power cord must be removed and the system must be hard wired by a licensed electrician directly to a circuit panel equipped with a 50amp GFCI (see conversion instruction and wiring diagram provided for you on back side of the electrical box faceplate). 240vac application of the convertible spa requires a 240vac, 50amp, 6/4wire, grounded type GFCI protected electrical service with copper conductors.

SPA DESIGNED FOR 240VAC ONLY

Your spa, as it comes from factory, requires a 240vac, 50amp AWG 6/4-wire, grounded type GFCI protected electrical service with copper conductors, and must be a separate circuit having no other appliance connected in that circuit. If you do not have this kind of circuit, a qualified electrician should be called in to install the necessary wiring and equipment. Run the proper size wire in conduit from the dedicated circuit breaker (see chart below) to the equipment package. The circuit must have a ground wire.

ELECTRICAL PRECAUTIONS

- 1.Make sure the line cord does not lie across a walkway or in a heavily traveled area
- 2.Do not locate lighting fixtures directly above the spa. If lighting is located within 5 feet of the spa, it must be on a circuit protected by a GFCI
- 3.Do not use electrically connected devices, such as TV, radio, telephones, or cooking devices within 5 feet of the spa while the spa is being used
- 4.All fixed metal objects located within 5 feet of the spa, such as fence posts, railing, door frames, gutters, etc., must be attached to the bonding bar on the outside of the electrical control pack using #8 solid copper wire.

Wiring compartment

To access the field wiring connections, remove the four screws on the side of the face plate of the electrical box.

Electrical Service Connections

Line Service	Marking	Amp Load	Minimum Circuit Ampacity	GFCI Breaker	Application
120vac(c)	2 wire #12 + Grd	16 amp	20 amp	20 amp	Models 9063TD, 9072TD, 9075TD
240vac(c)	3 wire #6 + Grd	40 amp	50 amp	50 amp	Models 9063TD, 9072TD, 9075TD
120vac(c)	2 wire #14 + Grd	12 amp	15 amp	15 amp	Model 9061TD
240vac(c)	3 wire #6 +Grd	32 amp	40 amp	40 amp	Model 9061TD
240vac(d)	3 wire #6 + Grd	40 amp	50 amp	50 amp	Models 9065TD, 9066TD, 9067TD

An illustration showing proper electrical connections for 120volt and/or 240volt service has been provided for you on a wiring diagram and conversion instruction affixed to the back side of the electrical box faceplate. GFCI wiring instruction you can find on back side of the electrical box too. Be sure to follow these and all other instructions carefully.

Be sure that all connections are tight before switching on the circuit breaker.

If unit is to be permanently connected, connect only to a circuit protected by a ground fault circuit interrupter

IF THE SPA IS WIRED INCORRECTLY, YOUR WARRANTY IS VOID.

READ BEFORE FILLING SPA

START UP PREPARATION

Before performing the operations in this section, make sure you have read and understand all of the previous instructions set forth in this manual. Make sure the spa has been installed correctly, including electrical wiring connections as specified in the wiring diagram.

START UP STEPS

Prior filling your spa with water and before turning on the power to the spa, perform the following:

1. Install the filter(s).
2. Ensure all valves are opened (Handle Pulled Up), if so equipped.
3. Ensure that none of the water or air lines have slipped under foot well area of the spa shell during shipment. Move them if they have.
4. Fill the spa with water 2-3 inches above the highest jet.
5. The GFCI circuit breaker must be tested before each use of the spa. Press the "Test" button on the breaker, the circuit breaker will go to the tripped position. Reset the GFCI and insure it stays set.
6. Turn circuit breaker on. Our spa control has automatic functions that operate upon start up and normal operation to protect the system. Upon power up, the read out will display a three digit "888" while the system is booting up. Also during the boot up, all of the indicator LED's will be lit.

At the end of the boot up, the water temperature will be displayed. If the water temperature is lower than the set point the low speed pump and heater will turn on until the water temperature reaches the set point plus 1 degree Fahrenheit. The LED "Heat" will illuminate when the heater is on. "Jets 1" LED will blink when the pump 1 running at low speed. Approximately one minute after the system has been initially powered up, you will be able to change the filter cycle and reset the temperature set-point.

To change the filter cycles you must press and hold the "Light" button for five (5) seconds until one of

these messages is shown on the LED readout:

2-9 (On 2hours/Off 10hours);

2-6 (On 2hours/Off 6hours);

2-4 (On 2hours/Off 4hours);

2-2 (On 2hours/Off 2hours);

4-2 (On 4hours/Off 2hours);

6-2 (On 6hours/Off 2hours);

On (Activated all the time).

To change configuration, the user uses the "WARMER" or "COOLER" pushbutton. The system will go back to the normal display after five (5) seconds if the pushbutton has not been pressed.

2 hours On/4 hours off (2-4) is manufacture default setting for Double speed pump configuration.

7. Press the "Jets1" button on your topside control. Within 15-30 seconds you should have water flowing from the hydrotherapy jets in the side of your spa. The "Jets1" LED on the topside control should be lit. If you have more than one pump, only some of the jets will be affected by this pump. If after 30 seconds you do not have water flowing freely, turn off the pump (press "Jets 1" button twice), and open the drain valve to clear the system of air. Then try engaging the pump again and repeat the procedure. If after 3-4 tries you cannot get water to flow, contact the manufacturer or dealer for instructions on how to purge the air from your plumbing lines.
8. Twist the air controls (if so equipped) located on the top of the spa to the "Open" position and verify that air starts coming out of the jets.
9. Twist the air control to the "Closed" position and verify that air stops coming from the jets. This may take a few minutes.
10. Press the "Jets 1" button again and low speed pump will operate and "Jets 1" LED will flashing.
11. Press the "Jets1" button on your topside control and verify that:
 - 11.1. Rapid water movement stops.
 - 11.2. The "Jets1" LED on the topside control goes off.
12. For systems with two hydrotherapy pumps press the "Jets 2" button on your topside control. Pump 2 is single speed pump. Within 15-30 seconds you should have water flowing from the hydrotherapy jets in the side of your spa. The "Jets 2" LED on the topside control should be lit. If after 30 seconds you do not have water flowing freely, turn off the pump (press "Jets 2" button again), and open the drain valve (if so equipped) to clear the system of air. Then try engaging the pump again and repeat the procedure. If after 3-4 tries you cannot get water to flow, contact the manufacturer or dealer for instructions on how to purge the air from your plumbing lines.
13. Twist the air controls (if so equipped) located on the top of the spa to the "Open" position and verify that air starts coming out of the jets.
14. Twist the air control to the "Closed" position and verify that air stops coming from the jets. This may take a few minutes.
15. Press the "Jets 2" button on your topside control and verify that:
 - 15.1. Rapid water movement stops.
 - 15.2. The "Jets 2" LED on the topside control goes off.
16. For systems equipped with air blower, press the "Air" button on the topside control and verify that there is air as well as water coming from all of the jets. The "Air" LED on the topside control is illuminated.
17. Press the "Air" button a second time and verify that air flow stops and that the "Air" LED goes off.
18. Once the water is flowing freely from the circulation jets, you may adjust your temperature setting. As it comes from the factory, the setting is too low to come on by itself. It is recommended that you initially operate the spa between 95° F and 100° F and increase the temperature setting over a few days as you become accustomed to its effect. When the desired water temperature is reached, the heater will automatically maintain that temperature as your programmed setting. When either of the "WARMER" or "COOLER" buttons is pressed and held, the "HEAT" LED will blink and the set temperature will increase or decrease, depending on which button is pressed. Release the button and after a short delay the window LED readout will automatically display the current spa water temperature.
19. Install the insulated cover on the spa and allow the spa to heat for 24 hours to reach a stable temperature. After the spa has run for 24 hours, test the water temperature and adjust it to suit your particular needs.

Spa Maintenance

Cleaning the spa surface

To properly clean an Aristech acrylic-surfaced product, it is recommended wiping the surface with a soft damp cloth or sponge using household soap or liquid detergent. Stubborn dirt or stains may be removed by using Spic & Span adequately dissolved in water. **DO NOT USE** any cleaning products containing abrasives or solvents since these could dull the brilliant surface.

Maintaining the wood skirt

With time and exposure to the elements, the wood on your spa will tend to lose its new appearance. Protecting or reviving the wood surface is a fairly simple process. Light sanding with a fine grit sandpaper will help smooth any roughness and regular applications of penetrating wood preservative will enhance and protect the richness of the wood.

Use and maintenance of the cover

Using the insulating spa cover any time the spa is not in use will tend to reduce your operating costs, heat up time, and maintenance requirements. To prolong the life of the cover, handle it with care and clean it regularly using a mild soap and water. Periodic treatments with a conditioner will help protect it against deterioration caused by ultra violet rays from the sun. Never allow anyone to stand or sit on the cover and avoid dragging it across rough surfaces.

Draining the spa

Every one to three months, depending upon your spa usage, you may find that the chemicals no longer effectively balance the water. At this point, draining the spa is necessary. The following procedure **MUST** be followed:

1. Press the **“Eco”** button on the side control. The **“Eco”** L.E.D. will illuminate and the heater is now off. **Only after you have done this, disconnect the power source.**
2. Connect one end of your garden hose to the water spigot and place the other end at the bottom of the spa.
3. Turn on the water and allow the water pressure to force the air out of the hose. This will create a siphon.
4. Turn off the water and remove the hose from the water spigot and the water will siphon out.

Return to start up steps for refilling procedures.

Filter Maintenance

It is important to maintain an unobstructed filtering system. Not only does this provide the maximum performance for hydrotherapy jets, but allows for proper filtration.

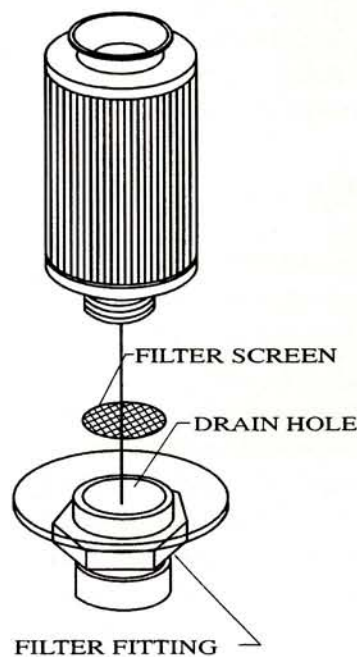
We recommend the filters be cleaned once a two weeks. Remove and soak to dissolve minerals in a solution of one to one bleach and water for a period of 24 hours. Insert a garden hose in the center of the filter after removing from the soak. Rotate and flush the filter pleats.

Any water filtering system may become clogged with particles, debris, or calcification that will reduce water flow. The necessity of filter replacements depends on the use the spa receives and the mineral or body oil content of the water. If calcification appears on the filter replacement is called for.

Call the Customer Service Hotline 1-800-741-3575 for replacements. The replacement part number is # 373005.

Warning: Do not run the spa without a filter because debris will be pulled into the pump and cause damage which will void your warranty.

SCREW-IN TYPE FILTER



Water Quality Maintenance

Maintaining the quality of the water within specified limits will serve to enhance your enjoyment and prolong the life of the spa's equipment. It is a fairly simple task, but it requires regular attention because the water chemistry involved is a balance of several factors. There is not a simple formula and there is no avoiding it. A careless attitude in regard to water maintenance will result in poor conditions for soaking and even damage to your spa investment.

pH and alkalinity control

pH is a measure of relative acidity or alkalinity of water and is measured on a scale of 0 to 17. The midpoint of 7 is said to be neutral, above which is alkaline and below which is acid. In spa water, it is very important to maintain a slightly alkaline pH condition of 7.2 to 7.8 and total water alkalinity should be 110-115ppm. Problems become proportionately more severe when affected as the pH moves beyond the ideal range. That is the reason almost all spa water test kits contain a method to measure for pH as well as the use of a sanitizer. Failure to maintain a proper pH level **will** cause damage to your spa.

Sanitizing

Warning: On spas equipped with an ozonator, DO NOT use any polymer based product, clarifier, or "perfect pH" in your spa. The ozone generated by your "Ecozone" in line ozonator will break down the polymers in these products causing cloudy water.

To destroy bacteria and organic compounds in the spa water, a sanitizer must be used regularly. A residual "Bromine" level of 3-5 ppm is considered desirable and can be maintained by regulating the number of bromine tablets in a floating brominator and the filtration cycles. If your spa is equipped with an "Ecozone" ozonator, the residual bromine level may be reduced to 1 ppm.

Important: Do not use chlorine tablets (Trichlor). They may permanently damage the acrylic surface and this damage is not covered by warranty.

Consult your local Pool and Spa company for advice on spa care chemicals and additives.

Other additives

Many other additives are available for your spa. Some are necessary to compensate for out-of-balance water conditions and others simply make the water feel or smell better.

Winterizing the Spa

The three recommended ways to prepare the spa for winter are:

1. Continue to let the spa run through the winter.
2. Completely drain the spa and complete the following steps:
 - Press the “ECO” button on the side control, “ECO” LED will illuminate and heater is off..
 - Disconnect the power source.
 - Remove the filters.
 - Drain the spa as for cleaning.
 - Completely drain the lines under the tub using a wet/dry vacuum at each of the jets.
 - Open the pump and heater unions and remove the water at these points. Leave the unions open to allow trapped water to expand if it freezes.
 - Replace all panels and put the cover on the spa.
3. The third option involves using antifreeze to protect the spa:
 - Press the “ECO” button, “ECO” LED will illuminate and heater is off.
 - **Only after you have done this, disconnect the power source.**
 - Remove the filters.
 - Drain the water down to the top of the drain skimmer in the foot well.
 - Add 3-4 gallons of BIODEGRADABLE antifreeze to the foot well and to the holes in the filter well. BIODEGRADABLE antifreeze is used in RV’s and is available at auto parts stores.
 - Power on.
 - Surge the jets on and off a few times by pushing the jets buttons until spray comes out of the jets. This will pull the anti freeze into the jets lines.
 - Replace all panels and put the cover on the spa.

Restarting Your Spa After Winterizing

- Turn power on to spa.
- Press “ECO” button to turn off heater.
- Add fresh water with garden hose (leave running) to filter well to help dilute antifreeze.
- Run the jets pump 1 with heater off & 2 (if applicable) approximately 2 minutes to force the antifreeze out of the lines.
- Drain the remainder of the spa water in the foot well by siphon or sump pump.
- Re-fill the spa and enjoy.

Spa Troubleshooting

PROBLEM	THINGS TO CHECK
Control System Problems	See Error Messages
Spa does not operate	GFCI in supply circuit tripped Insufficient voltage in supply circuit High Temperature limit tripped Power Cord doesn't plug in One of the fuses blown out
Water not heating or low temperature	Heater element not energized -adjust thermostat setting Heater element burned out Spa not covered Ambient temperature too low Pressure switch malfunction Filter or filter line clogged Disconnected heater Disconnect pressure switch wires("PS1"). Water temperature sensor open ("tS") Heater enclosure temperature sensor opened ("HtS") Control board malfunction Booster pump 1 not primed Impeller of the pump 1 clogged Pump 1 stopping Overload pump 1 and thermal overload open ECO MODE - PUSH "ECO" BUTTON
Pump not pumping or low water flow through jets.	Pump not primed Closed valve in suction or discharge line (if equipped) Air lock in water line Filter plugged Water level too low Impeller clogged Suction or discharge line partially closed Disconnected pump cord Main 30amp fuse blown out Motor overheated and overload protection tripped Jets closed

Motor does not start	Disconnect switch open Main fuse 30amp blown out or thermal protect open Locked shaft Motor winding burned out Disconnected pump cord Too low voltage Disconnected or defective wiring
Noisy pump and motor	Worn motor bearing Valve in suction line partially closed Piping causing strain on the pump case Suction line partially plugged
Overheating problem	Low water level
	Partially clogged discharge line
	Water temp. sensor unseated from thermowell
	Excessive booster pump(s) operation
	Ambient temperature is too high
System will not change mode	GFCI in supply circuit tripped Disconnected control cord between side control and electrical pack
Abnormal water usage	Leak in suction line, discharge line, or connectio
	Excessive evaporation and/or splashing.

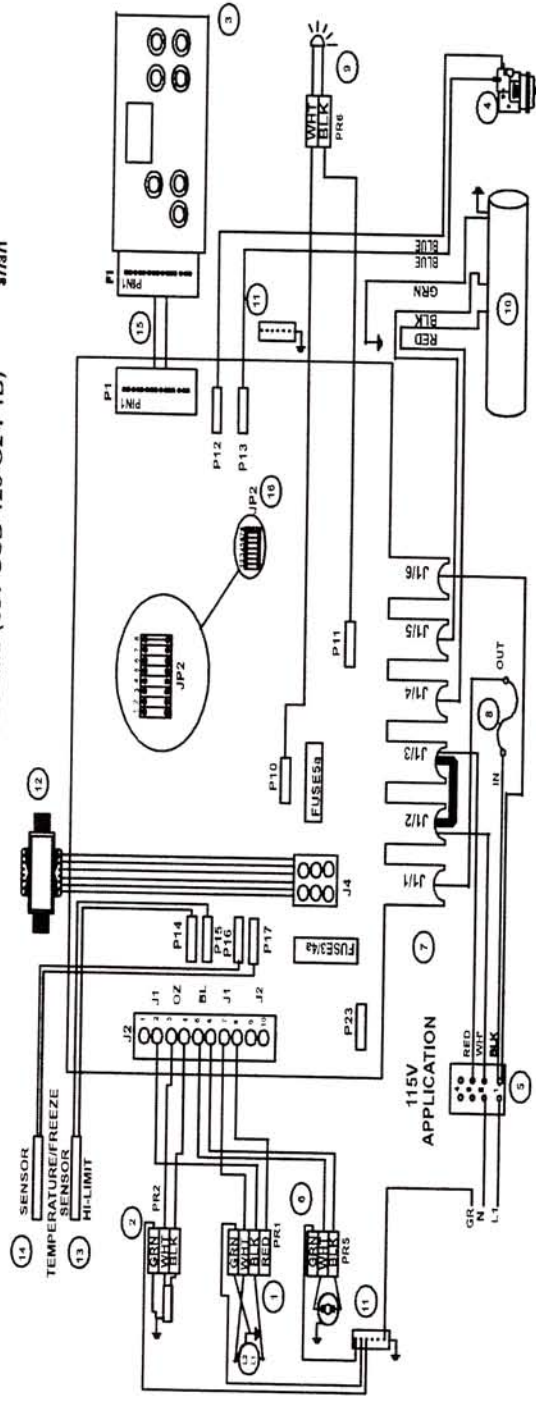
**NOTE: THE SKILLS AN TOOLS NECESSARY FOR THE SAFE REPAIR OF THIS SPA
REQUIRE THE SERVICES OF QUALIIED SERVICE PERSONNEL.**

CONTACT: 1-800-741-3575

**Product specifications are subject to change without notice.
Use installation instructions supplied with product.**

WIRING DIAGRAM FOR SYSTEMS 9063TD, 9072TD, 9075TD

115VAC/230VAC CONVERTIBLE SYSTEMS (63T-SCB-120-O2-P1B) 377871



- 1) DOUBLE SPEED PUMP
- 2) OZONATOR
- 3) SIDE CONTROL
- 4) PRESSURE SWITCH
- 5) SUPPLY TERMINAL BLOCK
- 6) BLOWER
- 7) CONTROL BOARD
- 8) FUSE 30 AMP.
- 9) SPA LIGHT
- 10) HEATER
- 11) GROUND BARS
- 12) TRANSFORMER W/ WIRES & PLUG
- 13) HI-LIMIT SENSOR
- 14) TEMP/FREEZE SENSOR
- 15) SIDE CONTROL INTERCONNECT CABLE
- 16) MODE SELECT (MULTIPLE JUMPERS)

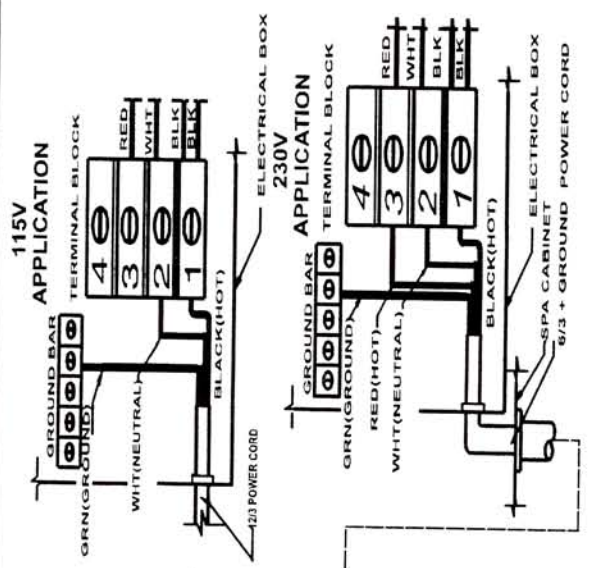
*IF SO EQUIPPED

CONVERSION INSTRUCTION 115 VAC TO 230 VAC

- 1) DISCONNECT FROM POWER AND REMOVE CORD 12/3.
- 2) REMOVE JUMPER STRIP J1/2-J1/3 ON THE CONTROL BOARD (SEE WIRE DIAGRAM).
- 3) REMOVE THE HEATER MODE SELECTOR JUMPER JP2/8 ON CONTROL BOARD (SEE WIRE DIAGRAM).
- 4) CONNECT THE GROUND WIRE OF THE 230V 6/3 GROUND CABLE TO GROUND BAR.
- 5) CONNECT LINE 1 WIRE TO TERMINAL 1 OF THE SUPPLY TERMINAL BLOCK.
- 6) CONNECT LINE 2 WIRE TO TERMINAL 3 OF THE SUPPLY TERMINAL BLOCK.
- 7) SUPPLY NEUTRAL WIRE FROM LOAD NEUTRAL ON GFCI TO TERMINAL 2 OF THE SUPPLY TERMINAL BLOCK.

USE COPPER CONDUCTORS ONLY

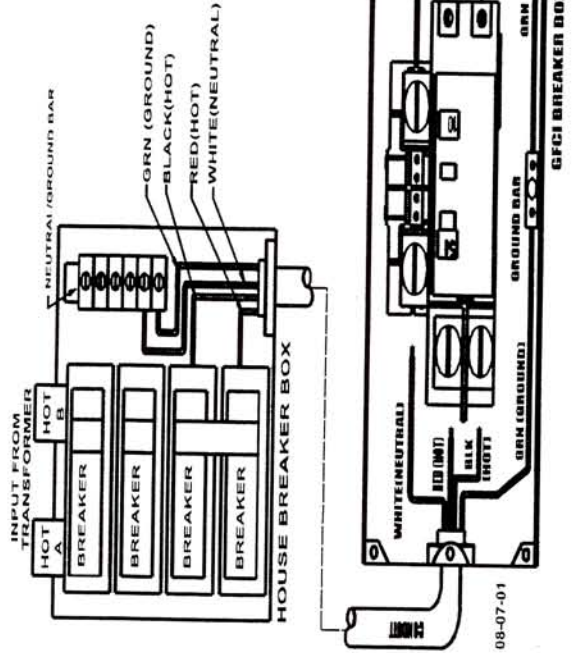
NOTE: IF UNIT IS TO BE PERMANENTLY CONNECTED; CONNECT ONLY TO A CIRCUIT PROTECTED BY A GROUND FAULT CIRCUIT INTERRUPTER (GFCI).



GFCI WIRING INSTRUCTIONS

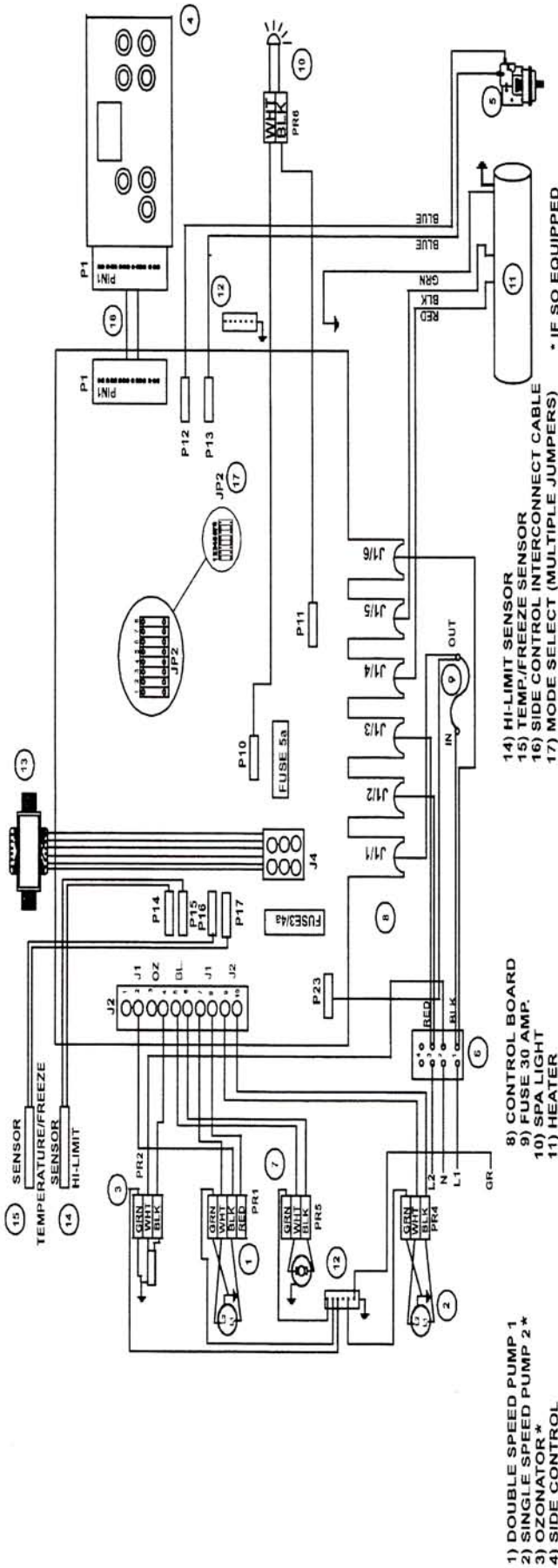
FOR INSTALLATION OF A TWO-POLE GFCI CIRCUIT BREAKER INTO A LOAD CENTER, THESE ASSEMBLIES ARE DESIGNED ESPECIALLY FOR USE BY QUALIFIED ELECTRICAL CONTRACTORS TO MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. MAKE DISCONNECT MEANS. DISCONNECTING MEANS SHALL BE ACCESSIBLE, LOCATED WITHIN SIGHT OF THE FEET OF THE EQUIPMENT, AND SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM INSIDE WALLS OF THE POOL, SPA OR HOT TUB. AN OUTLET THAT SUPPLIES A SELF-CONTAINED SPA OR HOT TUB EQUIPMENT ASSEMBLY, SHALL BE PROTECTED BY A GROUND FAULT CIRCUIT INTERRUPTER.

IMPORTANT NOTES:
 INSTALLATION OF THE GFCI CIRCUIT BREAKER, INCLUDING AMPERE RATING AND SELECTION OF CONDUCTOR SIZE & TYPE, MUST BE ACCOMPLISHED BY A QUALIFIED ELECTRICAL CONTRACTOR IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. ALWAYS MAINLINE DISCONNECT MEANS MUST BE INSTALLED AND LOCKED UP FOR ADDITIONS IN EFFECT AT THE TIME OF INSTALLATION.
 FOR CONVERTIBLE SPAS EQUIPPED WITH THE ELECTRICAL PACK # 8735CB 100-02 WITH 115V MAINLINE REQUIRED, A LOAD NEUTRAL CONNECTION, BECAUSE SPAS CONTAIN THE GFCI LINE NEUTRAL WIRE (AS USUAL) MUST BE CONNECTED IN ALL INSTALLATIONS. THE GFCI WILL NOT OPERATE CORRECTLY WITHOUT CONNECTION OF LINE NEUTRAL WIRE TO A GROUNDING LINE NEUTRAL.



WK 08-07-01

WIRING DIAGRAM FOR SYSTEMS 9065TD, 9066TD, 9067TD 230VAC SYSTEM (67T-SCB-230-02-P1P2B) 37381



- 1) DOUBLE SPEED PUMP 1
- 2) SINGLE SPEED PUMP 2 *
- 3) OZONATOR *
- 4) SIDE CONTROL
- 5) PRESSURE SWITCH
- 6) SUPPLY TERMINAL BLOCK
- 7) BLOWER *

- 8) CONTROL BOARD
- 9) FUSE 30 AMP.
- 10) SPA LIGHT
- 11) HEATER
- 12) GROUND BARS
- 13) TRANSFORMER W WIRES & PLUG

- 14) HI-LIMIT SENSOR
- 15) TEMP./FREEZE SENSOR
- 16) SIDE CONTROL INTERCONNECT CABLE
- 17) MODE SELECT (MULTIPLE JUMPERS) * IF SO EQUIPPED

GFCI WIRING INSTRUCTIONS

FOR INSTALLATION OF A TWO POLE GFCI CIRCUIT BREAKER INTO A LOAD CENTER, THESE ASSEMBLIES ARE DESIGNED ESPECIALLY FOR USE BY QUALIFIED ELECTRICIANS TO MEET THE SWIMMING POOL & SPA REQUIREMENTS OF ARTICLES 690.12 & 690.12 OF THE 1996 NATIONAL ELECTRICAL CODE. DISCONNECT MEANS SHALL BE ACCESSIBLE LOCATED WITHIN SIGHT OF POOL, SPA OR HOT TUB EQUIPMENT, AND SHALL BE LOCATED AT LEAST 5 FEET HORIZONTALLY FROM INSIDE WALLS OF THE POOL, SPA OR HOT TUB.

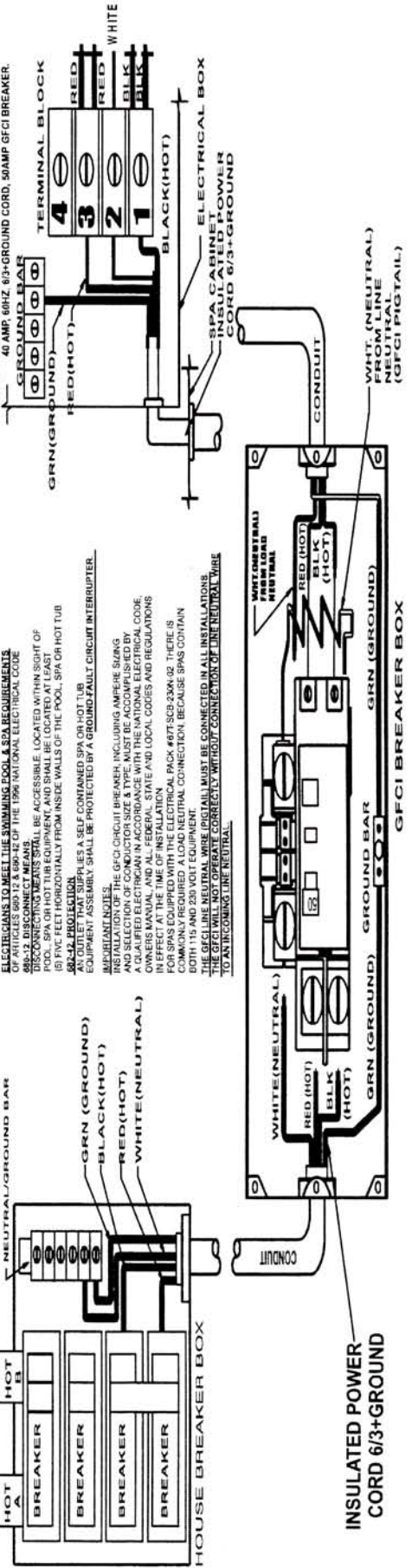
SAFETY PROTECTION: DISCONNECT MEANS SHALL BE PROTECTED BY A GROUND-FAULT CIRCUIT INTERRUPTER.

IMPORTANT NOTES: INSTALLATION OF THE GFCI CIRCUIT BREAKER, INCLUDING AMPERE SIZING AND SELECTION OF CONDUCTOR SIZE & TYPE MUST BE ACCOMPLISHED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE IN EFFECT AT THE TIME OF INSTALLATION. THE TAB LOCK COILS AND REGULATIONS COMMONLY REQUIRED ALONG WITH THE ELECTRICAL PACK #67T-SCB-230A-02 THERE IS BOTH 115 AND 230 VOLT EQUIPMENT.

NEUTRAL CONNECTION: THE GFCI WILL NOT OPERATE CORRECTLY WITHOUT CONNECTION OF THE NEUTRAL WIRE TO AN INCOMING LINE NEUTRAL.

WIRING DIAGRAM FOR 230VAC SPA FOR LICENSED ELECTRICIAN USE

NOTE: USE COPPER CONDUCTORS ONLY
WARNING: THIS WIRING MUST BE DONE BY A LICENSED ELECTRICIAN.
IF THE SPA IS WIRED INCORRECTLY, YOUR WARRANTY IS VOID.
40 AMP, 60 HZ, 6/3+GROUND CORD, 50 AMP GFCI BREAKER.



INSULATED POWER CORD 6/3+GROUND