

Sundance[®] Spas

INSTALLATION &
OWNER'S MANUAL

For all U.L. Listed Sundance Spas with Sentry™
#605 Control System

SENTRY
624

IMPORTANT:

- ALL ELECTRICAL CONNECTIONS MUST BE PERFORMED BY A QUALIFIED ELECTRICIAN
- ALL WORK MUST CONFORM TO LOCAL BUILDING CODES

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TABLE OF CONTENTS

Important Safety Instructions	2
Important Health Information	3
Electrical Safety	4
General Electrical Safety Instructions	4
Locating Your Sundance Spa	6
Electrical Installation Instructions	7
Start Up Instructions	11
Operating Instructions	13
Spa Maintenance	17
Water Quality Maintenance	19
Troubleshooting Guide	20

Sundance Spas constantly strives to offer the finest spas available, therefore modifications and enhancements may be made which affect the specifications, illustrations and/or instructions contained herein.

IMPORTANT SPA OWNERS INFORMATION

Your Sundance Spa is constructed of the highest standards and is capable of providing many years of trouble-free use. Nonetheless, if the spa is left exposed to direct sunlight without a protective cover, solar heating can cause permanent damage to the surface. This happens because the spa is extremely well-insulated and, thus, prevents the solar heat from being dissipated beyond the spa's surface. Temperatures of 220 degrees or greater can concentrate on the spa's surface. No spa material can withstand these temperatures. Damage caused by exposing the spa to this abuse is not covered by warranty. Always keep the spa full of water when exposed to direct sunlight for long periods of time. In addition, we recommend keeping the Sundance insulating cover in place at all times when the spa is not in use.

Read and carefully follow the requirements for your spa's support base (found in the Section titled "Locating Your Sundance Spa").

**REQUIRED INSTRUCTIONS UL NO. 1563
SENTRY™ 624 EQUIPPED SUNDANCE SPAS
OWNERS MANUAL**

IMPORTANT SAFETY INSTRUCTIONS

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

- 1. READ AND FOLLOW ALL INSTRUCTIONS BEFORE OPERATING THE SPA!**
- 2. DANGER -** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- 3. DANGER -** To reduce the risk of injury, do not remove the main drain suction grate or cover.
- 4. DANGER —** A wire connector marked "ground" is provided within the power box (see ILL. No. 3.1-3.2). To reduce the risk of electric shock, connect this terminal or connector to the grounding terminal of your electrical service or supply panel with a continuous green insulating copper wire equivalent in size to the circuit conductors supplying this equipment, but no smaller than No. 8 AWG. In addition, a second wire connector is provided for bonding to local ground points. To reduce the risk of electrical shock, this connector should be bonded with a No. 8 AWG (8.4 MM²) copper wire to any metal ladders, water pipes, or other metal within 5 feet (1.52m) of the spa.
- 5. DANGER - RISK OF ELECTRIC SHOCK, Install at least 5 feet (1.52m) from all metal surfaces.**

(A spa may be installed within 5 feet of metal surfaces, if in accordance with the National Electrical Code, ANSI/NFPA 70-1984, each metal surface is permanently connected by a No. 8 AWG (8.4mm²) copper conductor attached to the wire connector on the terminal box that is provided for this purpose.)
- 6. CAUTION -** Sentry™ 624 equipped spas are designed to be hardwired to your household electrical service box only. Do not use an extension cord or any other disconnectable power cord. The use of an extension cord or a disconnectable power cord is highly dangerous and will void all warranties!
- 7. INSTALLATION -** The spa must be installed in such a manner as to provide drainage of the compartment for electrical components.
- 8. DANGER - RISK OF ELECTRICAL SHOCK.** Do not permit any electric appliance such as a light, telephone, radio or television within five feet (1.52 m) of the spa.
- 9. SAVE THESE INSTRUCTIONS.**

IMPORTANT HEALTH INFORMATION

1. **Always enter and exit the spa slowly and cautiously. Wet surfaces will be slippery.**
2. **Never use a spa while under the influence of alcohol, anticoagulants, antihistamines, vasoconstrictors, vasodilators, stimulants, hypnotics, narcotics and tranquilizers.**
3. **Long exposures in the spa may result in nausea, dizziness or fainting. Observe a reasonable time limit, leave the spa, then shower, cool down and, if you wish, return for another brief stay.**
4. **Pregnant women and persons suffering from heart disease, diabetes, high or low blood pressure should not enter the spa without prior medical consultation and permission from their doctor.**
5. **Unsupervised use by children should be prohibited.**
6. **Do not use the spa alone.**
7. **It is recommended that the following emergency telephone numbers be listed at the nearest telephone: physician, hospital, ambulance and police.**
8. **Excessive spa temperature is dangerous and we recommend the temperature be checked before each use. The maximum temperature of the spa water must never exceed 104° Fahrenheit (40° Centigrade). Excessive temperatures may cause hyperthermia. The symptoms of hyperthermia and first aid information are as follows:**

HEAT STROKE: The most susceptible people are the very young and elderly, alcoholics and most people under the influence of drugs, medication and alcohol.

SYMPTOMS: Hyperthermia causes loss of salt, sweating, ordinary dizziness, headache, dryness of mouth and nausea, faintness and/or unconsciousness, convulsions, flushed appearance of skin and rapid pulse and/or weak, shallow breathing.

TREATMENT: Place the victim on his back, head slightly elevated. Apply wet cloths or ice packs to the head, wrap the body in a sheet, pouring on small amount of water. Follow with a cool shower or bath. Get medical attention as soon as possible.

9. **SAVE THESE INSTRUCTIONS!**

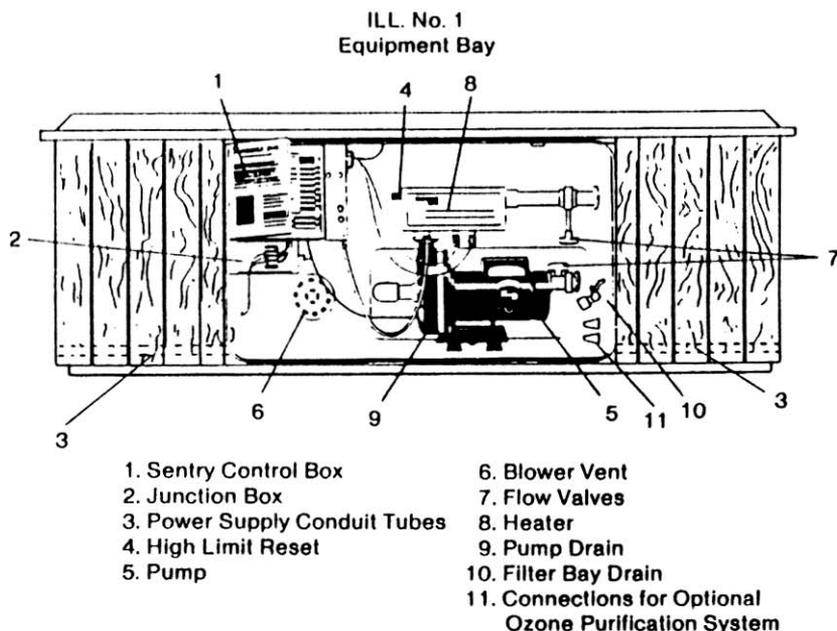
ELECTRICAL SAFETY

Your new Sundance Spa is equipped with the "state-of-the-art" Sentry™ 624 equipment system. It contains the most advanced safety and self-protective equipment in the industry. Nonetheless, this spa must be installed properly to insure dependable usage. Please contact your dealer or local building department should you have any question regarding your installation. In the event they are unable to answer your questions, direct your inquiries to Sundance Spas. Please refer to the front of this manual for our address and telephone number.

GENERAL ELECTRICAL SAFETY INSTRUCTIONS

Proper grounding is extremely important. Sundance Spas are equipped with a current collector system. A pressure wire connector is provided on the surface of the control box, located inside the equipment door (See ILL. No. 2 Item 6) to permit connection of a bonding wire between this point and any ground metal equipment, metal water pipe or conduit within 5 feet of the spa, or copper clad grounding rod buried within 5 feet of the spa. Bonding wire must be at least No. 8 AWG (8.4 mm²) solid copper wire. This is a most important safety assurance feature.

Before installing the spa check with the local building department to insure installation conforms to local building codes.



DOOR INTERLOCK

The Sentry™ 624 equipped Sundance Spa contains a door interlock on each door. To shut down the power supply to the high voltage electrical components when the door is opened. NOTE: Panel Indicator lights and low voltage circuitry will continue to function when the door is opened.

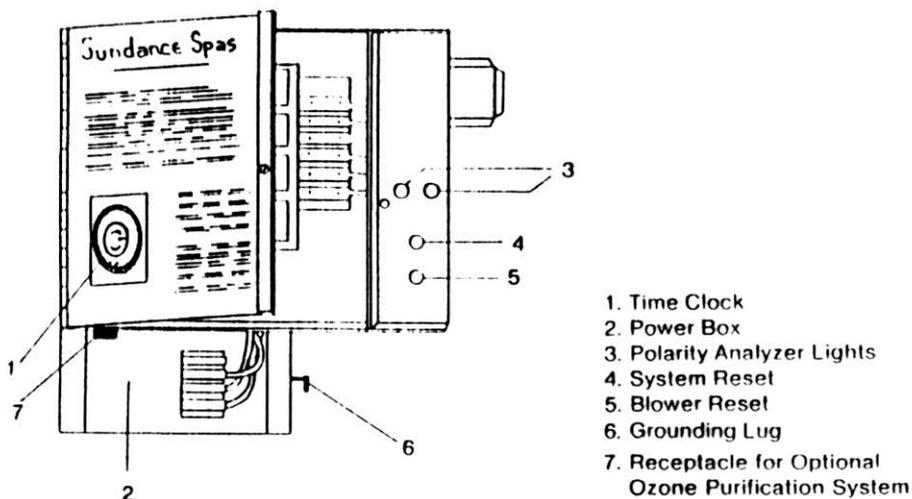
POLARITY INDICATOR LIGHTS

The polarity indicator lights allow for a visual inspection of your electrical installation. On the inside control box, located behind the equipment door, are two neon lights that are used to identify proper electrical hook up. (SEE ILL. No. 2 Sentry control box - Item 3). The left light indicates ground circuit, the right light indicates line/load circuit. Check to see that both lights are brightly ON before operating the spa. Should either or both lights flicker, dim, or fail to come on when spa is energized, the spa is not properly installed. This condition must be corrected before the spa can be used.

MANUAL RESETS

There are 3 resets in the Sentry™ 624 system. Located on the Sentry Control Box are two circuit breaker buttons (SEE ILL. No. 2, Items 4 and 5) and one manual reset is located on the heater housing. (SEE ILL. No. 1 - Item 5.)

ILL. No. 2
Sentry™ Control Box



BLOWER RESET

The purpose of the blower circuit breaker (SEE ILL. No. 2, Item 5) is to protect against a short in the blower. Should a short occur (i.e., water gets into the blower) it will automatically pop out, discontinuing electrical power to the blower. This breaker must be manually reset once the problem has been resolved.

240 SYSTEM RESET

The second reset is a general circuit breaker to protect the 240 volt circuitry of your spa (See ILL. No. 2, Item 4). It is marked with a "10" designating maximum amperage the reset will hold, and functions in the same manner as the blower circuit breaker.

HIGH TEMPERATURE LIMIT RESET

A third reset is a manual high limit reset located at the electrical heater connector box (SEE ILL. No. 1, Item 5). It is a solid red button designed to pop out in the event the spa water becomes too hot. If this occurs, the high limit reset will discontinue power to the entire spa. The high limit reset must be manually depressed to reset its function. This can only be done when the water has cooled sufficiently for the reset to hold. The high limit reset is designed to protect against overheating in the event the thermostat should fail to operate. It also protects against heat damage to the plumbing in the unlikely event the heater should remain on without a flow of water. (See TROUBLESHOOTING)

LOCATING YOUR SUNDANCE SPA

IMPORTANT: Because of the combined weight of the spa, water and users, it is extremely important that the base upon which the spa rests be smooth, level, flat and capable of uniformly supporting this weight, without shifting or settling, for the entire time the spa is in place. If the spa is placed on a surface which does not meet these requirements, damage to the skirt and/or the spa shell may result. Damage caused by improper support is not covered under warranty. It is the responsibility of the spa owner to assure the integrity of the support over time.

We recommend a poured, reinforced concrete slab (minimum of 4 inches thick). However, wood decking is also acceptable provided it is constructed so that it meets the requirements outlined above.

The spa must be installed in such a manner as to provide drainage away from the spa. Placing the spa in a depression without provisions for proper drainage could allow rain, overflow and other casual water to flood the equipment and create a wet condition in which the spa would sit.

For spas which will be recessed into a floor or deck, install so as to permit access to the equipment, either from above or below, for servicing.

In selecting the ideal outdoor location for your spa, we suggest that you take into consideration 1) the proximity to change area and shelter (especially in colder weather); 2) the pathway to and from your spa (this should be free of debris so that dirt and leaves are not easily tracked into the spa); 3) the closeness to trees and shrubbery (remember that

leaves and birds could create extra work in keeping the spa clean); 4) a sheltered environment (less wind and weather exposure can result in lowered operation and maintenance costs); and 5) the overall enhancement of your environment. It is preferable not to place the spa under an unglutted roof overhang since run-off water will shorten the life expectancy of the spa cover.

For indoor installations, be certain to make provisions for proper ventilation. When the spa is in use, considerable amounts of moisture will escape. This can damage certain surfaces over time.

If you have any questions regarding the placement or installation of your spa, consult your authorized Sundance Dealer.

ELECTRICAL INSTALLATION INSTRUCTIONS

Your Sentry™ 624 equipped spa is designed to be easy to install. Nonetheless, you will be required to provide an adequate power supply, make your power runs according to the local building codes, and have a qualified electrician make all power connections.

These instructions are to be given to your electrician for his use in powering your spa on 240 volts:

ATTENTION ELECTRICIAN

INSTRUCTIONS FOR SENTRY™ 624 CONTROL SYSTEM 240V ELECTRIC HEATER EQUIPMENT

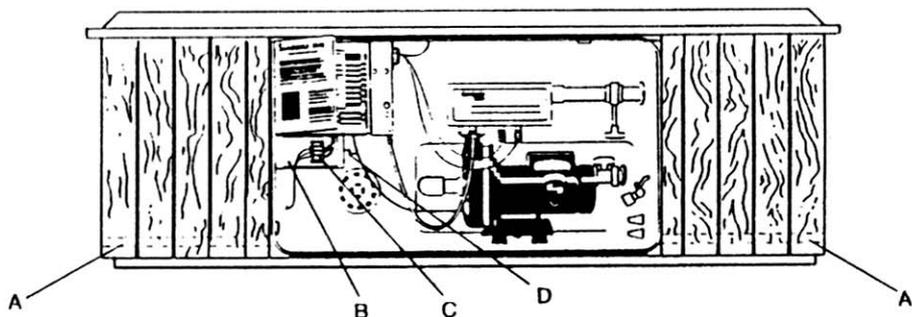
1. These instructions are for the SUNDANCE 240V SENTRY™ 624 equipment packages.
2. Wire size will vary depending on the length of electrical run. See wiring size guide and ILL. No. 5.
3. Before gaining access to the spa controls DO NOT ATTEMPT to pull open the spa doors. Unlock door fasteners first.

PROCEDURE (SEE ILL. No. 3.1, 3.2)

1. A CURRENT COLLECTOR HOOKUP (i.e., proper grounding) is required. Since a GFI provides essentially no protection on a properly constructed and connected spa, the NEC and U.L. do not require a GFI on properly hard-wired 240 volt spas. The grounding systems in SUNDANCE spas activate current collectors in the spa that make the spa safe for use and meet all safety requirements when the ground is connected per instructions. SUNDANCE provides a grounding terminal at the right side of the junction box and this system is completed by connecting bare, single strand #8 wire or larger to a 6 foot copper clad stake buried or fully driven into the earth. If this is not possible, a similar type of ground line is suggested.
2. Access to the inside of Control Box is not necessary! Remove the cover on the junction box located directly below the control box to make all power connections.

3. Connect the power wire to the terminals provided inside the junction box. You will find three terminals provided.
4. **IMPORTANT:** All wires must be hooked up. Do not neglect to run the ground line or serious damage will result.
5. All wiring should be done to color code: one (1) black THHN #8 or larger wire, one (1) red THHN #8 or larger wire, and one (1) green THHN #8 for ground. No wire smaller than #8 gauge is acceptable **even on short runs.**
6. The 240V-6KW electric system draws 38 amps and requires a 50 amp dedicated circuit. Remember that not all wire types are rated the same and wire size requirements may vary with the length of run and local code (See wire size guide). Make sure to run the wires in the conduit according to code.

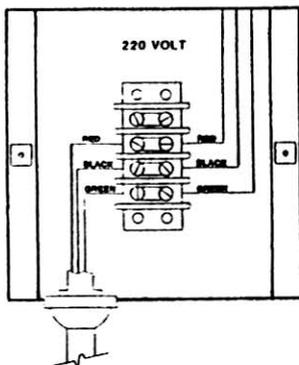
ILL. No. 3.1
Equipment Bay Power Locations



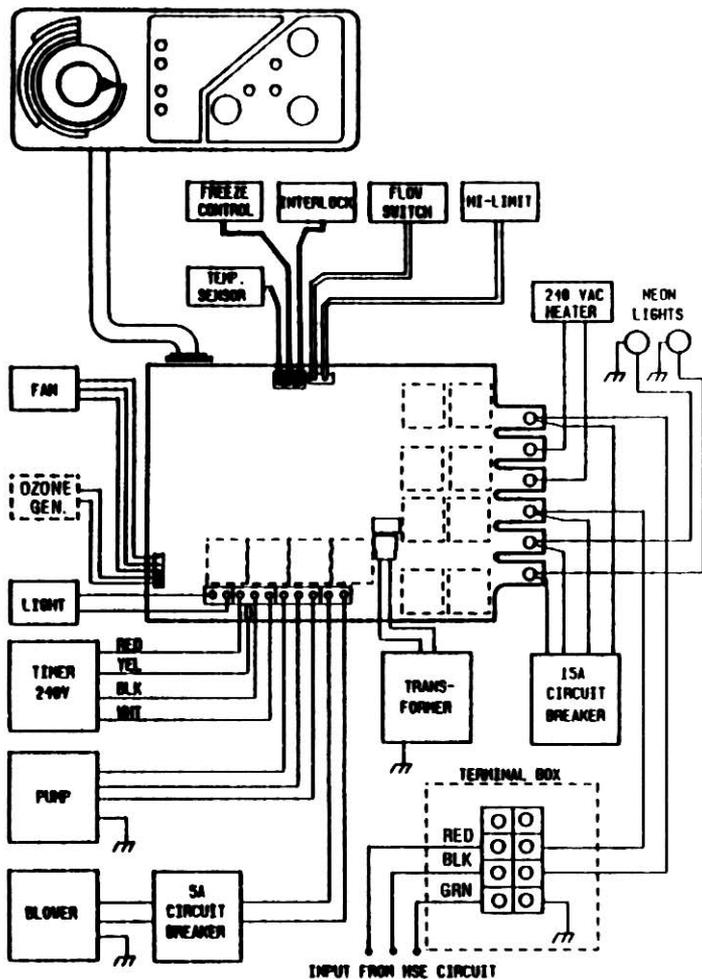
A. Power Supply Conduit Tubes
B. Junction Box

C. Power Strip
D. Grounding Point

ILL. No. 3.2
Junction Box



ILL. No. 4
Sentry® 624 Wiring Diagram

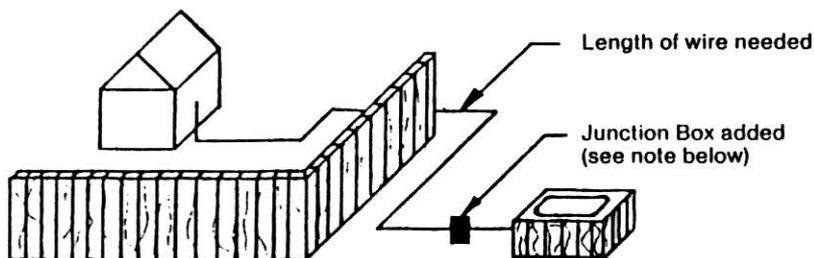


**WIRE SIZE GUIDE – 624 CONTROL SYSTEM
240V DEDICATED ELECTRICAL EQUIPMENT**

The chart below is pre-calculated to indicate the proper size wire for any given length of wire run to the spa. (See drawing)

WIRE SIZE	WIRE DISTANCE (INCLUDE ALL UP AND DOWNS, INCREASES FOR CORNERS)
#8	100'
#7	125'
#6	158'
#5	200'
#4	250'
#3	317'
#2	400'
#1	501'

ILL No. 5.



NOTE: When using wire larger than #6 add J box in NEAR vicinity of spa and reduce to short lengths of #8 to connect to spa

These figures are good for any 240V Sundance model spa. All wires in the systems must be the same size except the ground wire, which should always be #8 wire or larger.

During normal operation, the spa will draw as much as 38 amperes. However, during pump start-up there is a brief period (.05 seconds) when an 80 ampere surge is experienced. Without proper wire sizing, the voltage drop caused by this surge may damage both the pump and control equipment, which could result in excessive service calls.

START UP INSTRUCTIONS

First, fill the spa with water from a garden hose. As the spa is filling, check the plumbing connections inside the equipment bay to see that there are no leaks. Occasionally, it may be necessary to lighten one of these fittings as they can loosen during shipping. Continue to fill the spa until the water level is midway in the skimmer opening and above all jets.

NOTE: Never fill water from a water softener. If your water is extremely "hard," it is preferable to fill half-way with hard water and the rest of the way with softened water.

Second, close equipment bay doors and turn power on to the spa. It may be necessary to cycle the jet sensor "on." This causes the pump to activate water flow to the jets. If the pump is well primed, you should be able to feel a strong flow of water. If not, turn the jet sensor "off," check to see that the flow valves are open (pull on the "T" shaped handles SEE ILL. No. 1 Items 8). This should do the trick, but if not, you may need to cycle the jet sensor "on" and "off" until the pump is primed.

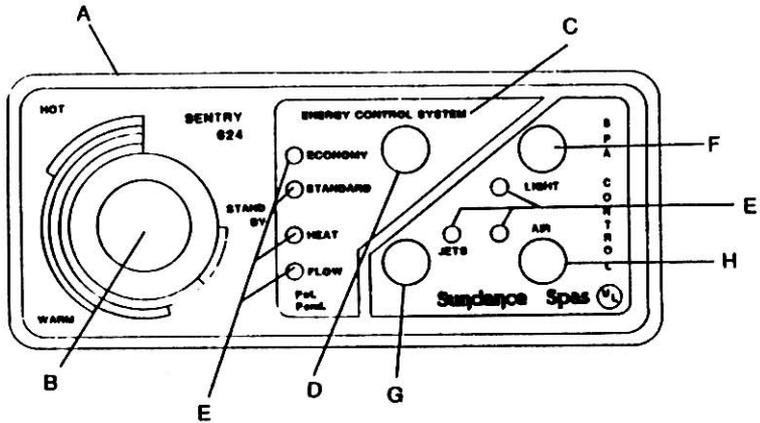
Third, add spa water chemicals (See SPA MAINTENANCE).

Fourth, to heat the spa, turn the thermostat knob clockwise. The top range of temperature is approximately 104°F. By turning the thermostat knob counter-clockwise, you will find the sensitivity to temperature will change geometrically. A minimum temperature setting is programmed into the Sentry™ 624 to provide automatic freeze protection. Cycle the energy selector to standard. Note that a red indicator light marked "heater" and a red indicator light marked "flow" are now on. They will remain on until the spa reaches the temperature selected by the thermostat. Cover the spa with the Sundance insulating cover and allow the spa to heat. Initial heat-up time will vary depending on the start water temperature. Temperature rise will be approximately 5 to 6 degrees per hour.

Use an accurate thermometer designed for spa use to monitor the water temperature. Always check the thermometer before entering the spa.

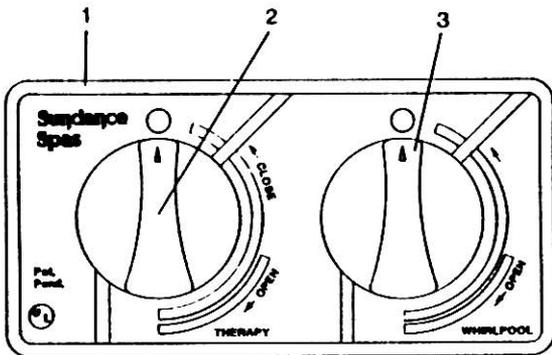
NOTE: Contrary to popular belief, setting the thermostat at maximum will not accelerate the heating process. This will only result in a higher ultimate temperature.

ILL. No. 6
Sentry™ 624 Control Panel
and Air Control Knobs



- A. 624 Control Panel
- B. Thermostat Control Knob
- C. Energy Control System
- D. Energy Control Sensor

- E. Indicator Lights
- F. Light Sensor
- G. Jet Sensor
- H. Air Sensor



- 1. Air Control Panel
- 2. Therapy Air Control Knob
- 3. Whirlpool Air Control Knob

OPERATING INSTRUCTIONS

The Sentry™ 624 has a touch sensitive control panel and air control knobs located on the top lip of the spa (See ILL. No. 6). These control panels let you operate many of the special functions of your Sundance Spa.

LIGHT

The round sensor pad designated "Light" (F) activates the light when touched. The LED light (E) next to the pad will light, indicating the condition of the light.

JETS AND AIR INJECTION

The jet (G) and air (H) functions are controlled the same way. A sensor marked "Jets" controls the hydrotherapy jets (located in the seatback areas), and a sensor marked "Air" controls the air injectors (found on the seat tread areas SEE ILL. No. 8, item 5).

Indicator lights on the panel signal when these functions are on. The "jets" cycle in high, low and off functions. The "air" cycles on and off. Both of these functions are also controlled by an electronic timer which will automatically shut these functions off approximately 15 to 20 minutes after they are started. This is a self-protective mechanism designed to insure the spa cannot be accidentally allowed to run while not in use. To restart, simply depress the sensor.

You will note that occasionally, when the "jet" sensor is cycled off, the jets are continuing to operate at low speed. This happens when the thermostat is calling for heat or when the time clock is on. (For further clarification, see section titled "Energy Control System.")

AIR CONTROLS

(ILL. NO. 6)

When operating the therapy jets (Item 2) or the whirlpool jet (Item 3), you may regulate the amount of air that is mixed with the water by adjusting the appropriate air control knob. **NOTE: IN A CLOSED POSITION THERE IS NO NEED TO TIGHTEN THE KNOB BEYOND THE RED DOT.**

ENERGY CONTROL SYSTEM

(ILL. NO. 6)

The Sentry™ 624 has the unique ability to reduce operating cost without impairing the spa's performance. By touching the sensor (D) in the energy control area, you can cycle the spa between the "Economy" and "Standard" settings. Two indicator lights located next to this sensor tell which mode the spa is in.

STANDARD MODE

When the spa is in "Standard" mode (red indicator light), the spa will automatically seek the temperature called for by the thermostat. When this temperature is reached, the spa will shut OFF, and as the temperature declines, the spa will cycle "ON" automatically. In addition in the standard mode the spa will turn on during the timer cycles for filtration (and heating, if called for by the thermostat). You should set the energy control system in the "standard mode" if you want to be certain the Spa will heat, if needed, while the high speed jets are on.

ECONOMY MODE

When this cycle is in the "Economy" mode (green indicator light) the spa will cycle ON *only* during the time called for by the time clock. During this period, the heater will seek the temperature called for by the thermostat (B). Once this temperature is achieved, only the heater will shut off. The pump will continue to run at low speed until the end of the cycle. When the jets are on high speed, the spa will heat in the "economy" mode *only* if the timer is in its "ON" cycle.

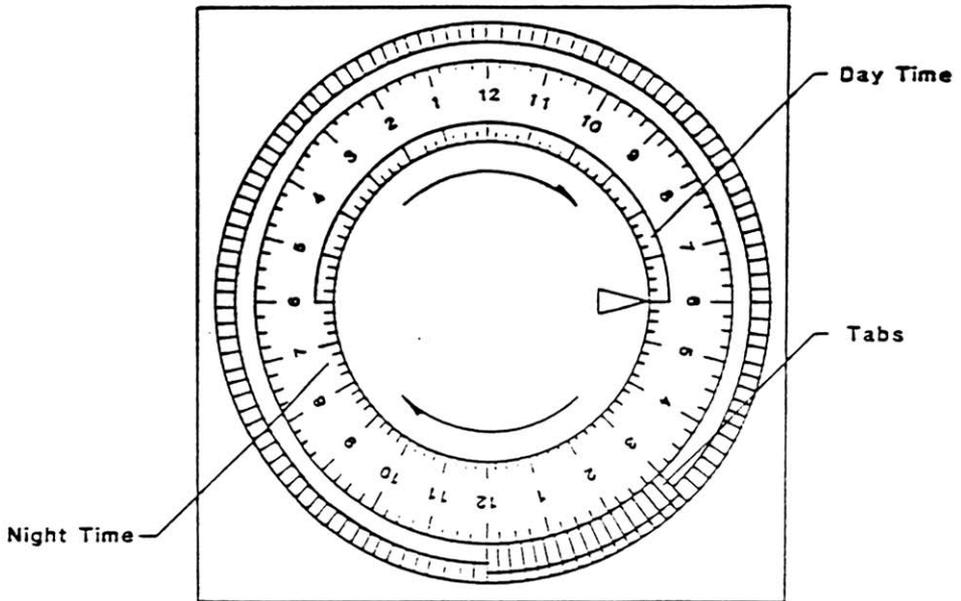
Typically the spa will automatically cycle back to the low speed and continue to heat when in the "Standard" setting or will start on low speed when called upon by the time clock when in either the "Economy" or "Standard" setting. You can check these functions by watching the "Flow" and "Heat" indicator lights.

THE THERMOSTAT

The solid state thermostat has been designed to provide you with an optimum control of the spa water temperature. The maximum setting is 104°. As the knob is turned counter-clockwise, the temperature will drop in ever increasing proportions. This geometric temperature scale allows you much greater precision and control at the upper temperature levels.

The Sentry™ 624 thermostat is a highly precise electronic temperature control. We suggest that once you find the temperature you like best, identify its location on the panel. The thermostat is calibrated at the factory and should remain set for years.

ILL No. 7
Time Clock



TIME CLOCK

(ILL NO. 7)

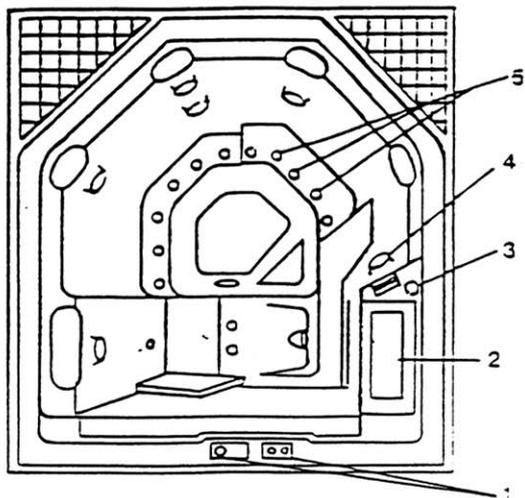
The time clock is intended to operate your filtration cycle. To set the time of day, rotate the entire dial until the arrow on the top is indicating the correct time.

NOTE: The white line represents day time.

To set the filtration cycle(s), locate the black tabs opposite the time you wish cycling to occur. Press from the outside toward the center. Press one (1) tab for each 15 minute filter period. It is suggested that cycle times should be a minimum of one (1) hour long and the spa should filter for at least six (6) hours in a 24-hour period. For best results, space the filtration cycles to two or more times during this 24-hour period.

NOTE: The entire group of tabs between on-time and off-time must be depressed.

ILL. No. 8
Top View - Spa



1. Control Panels
2. Filter
3. Whirlpool Knob
4. Whirlpool Therapy Jet
5. Air Injectors

THE WHIRLPOOL JET

(ILL. NO. 8, ITEM 3, 4)

All Sundance Sentry 624 spas come equipped with a whirlpool jet. The control for this jet is a large, dark grey knob located next to the filter lid. By turning this knob clockwise, you may direct the flow to the whirlpool jet; counter-clockwise rotation directs the flow to the hydrotherapy jets.

IMPORTANT: ALWAYS CYCLE THE JETS OFF OF HIGH SPEED BEFORE ATTEMPTING TO ROTATE THIS KNOB.

CONCLUSION

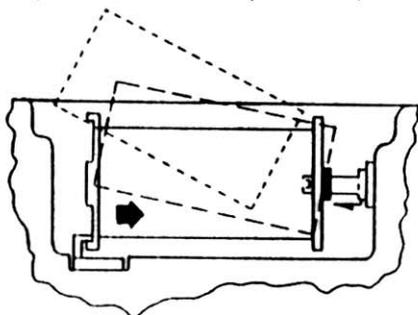
The Sentry™ 624 System is very easy to use as most of its functions are automatic. You will appreciate the many ways the Sentry™ 624 can save on maintenance and operating costs as you become aware of its many functions.

SPA MAINTENANCE

Proper and regular maintenance of your spa will help it retain its beauty and performance. Sundance offers a complete spa maintenance kit which includes everything you will need to accomplish this. Ask for it at your authorized Sundance dealer.

CARTRIDGE FILTER (ILL. NO. 9)

ILL. No. 9
Filter Removal



CLEANING THE FILTER

Each Sentry™ 624 controlled Sundance Spa is equipped with a cartridge filter. It is located in the skimmer/filter well (ILL. No. 9) near the top edge of the spa and is uniquely designed for easy removal and cleaning. Filtering is accomplished by causing water to flow through the fine polyester mesh of the filter, and as water flows through the filter, suspended particles become trapped on its surface.

It is necessary to remove the filter and clean the cartridge surface, generally every 4 to 8 weeks, depending on usage and water quality. This is done by loosening the large retainer nut on the pipe at the base of the filter and rotating the cartridge gently. When the cartridge pops loose (up), slide the cartridge off the filter pipe. Cleaning is accomplished by washing all the entrapped dirt from the filter with a garden hose with a high pressure nozzle.

Occasionally, the cartridge will need a better cleaning to remove oils and grime from its surface. For this we suggest you remove the cartridge, clean with a high-pressure nozzle, then place the cartridge in a Sundance filter cleaning bag, soaking the cartridge 3 to 6 hours or overnight in Sundance "Filter Cleaner," or similar filter cleaning product.

NOTE: When replacing the filter cartridge, rotate the retainer nut around the pipe until it is snug against the base of the cartridge. The average life expectancy of a Sundance filter cartridge is approximately 2 years with proper care and water quality maintenance. A replacement cartridge may be purchased from your Sundance dealer.

DRAINING & REFILLING

CAUTION: There are certain precautions to keep in mind when draining your spa. If it is extremely cold, and the spa is outdoors, freezing could occur in the lines or the equipment. On the other hand, if it is hot outdoors, do not leave the spa surface exposed to direct sunlight for long periods.

The best method of draining your spa is by natural siphon. First, slide open one of the equipment doors to discontinue power to the spa so that none of the automatic functions

will come on during this process. Second, place the outlet end of an ordinary garden hose in the bottom of the spa. Third, connect the other end to an outside faucet and turn on the faucet to fill the hose with water. Next, shut off the faucet, disconnect the hose and place this end of the hose in the area to which you want the water to drain, making sure it is lower than the bottom of the spa. Repeat this process with as many hoses as you like in order to speed the draining of the spa.

To drain the filter bay, attach a hose to the filter bay drain (ILL. No. 1, Item 11) and open the valve. Be sure to close this valve before refilling.

After refilling, follow the steps listed under "Start Up Instructions."

CLEANING THE SPA SURFACE

To preserve the sheen of your spa's surface, it is crucial that you avoid using abrasive cleansers or cleansers which have adverse chemical effect on the surface. If you are not certain as to the suitability of a particular cleanser, consult your authorized Sundance Dealer.

Regardless of the cleanser used, use extreme care to assure that no soap residue is left on the surface. This could cause severe sudsing when the spa is refilled.

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 surfaces is a fairly simple process.

Light sanding with fine-grit sandpaper will help smooth any roughness, and regular applications of All Climate Stain™, a penetrating, wood preservative specially developed for Sundance Spas, will enhance and protect the richness of the wood.

NOTE: Do not apply varnish, shellac or other surface sealants to the wood. These tend to react with the chemicals in the wood and the UV rays of the sun, causing yellowing, flaking and peeling.

MAINTAINING THE COVER

Using the optional Sundance insulating spa cover anytime the spa is not in use will significantly reduce your operating costs, heat-up time and maintenance requirement: To prolong the life of the cover, handle it with care and clean it regularly using mild soap and water. Periodic treatments with a special conditioner developed for Sundance Spa covers, will help protect against deterioration caused by U.V. rays from the sun. Never allow anyone to stand or sit on the cover, and avoid dragging it across rough surfaces.

WINTERIZING

Your Sundance Spa is designed to automatically protect itself against freezing when operating properly. During periods of severe freezing temperatures, you should check periodically to be certain that the electrical supply to the spa has not been interrupted.

If you do not intend to use your spa, or if there is a prolonged power outage, during periods of severe freezing temperatures, it is important that all water be removed from the spa and equipment to protect against damage from freezing.

For expert winterization of your spa, contact your authorized Sundance Dealer. If this is not practical in your situation, damage can be minimized or avoided by taking the following steps: Follow the directions above for draining the spa. Then, as the water level drops below the seats, turn on the air blower momentarily to evacuate the injector lines. Open the filter compartment drain hose to allow all the water to run out of it. Finally, when the entire spa is drained, remove the black bolt-type plug located at the bottom of the left side of the pump (SEE ILL. No. 1, Item 10). (Note: When this plug is removed, approximately one quart of water will escape. Be prepared with a shallow pan to catch this water so as not to allow it to remain in the equipment bay). Cover the spa so that no casual moisture can enter the spa.

Consult your Authorized Sundance Dealer if you have any questions regarding winter use or winterizing.

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 no 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.

For specific guidance on maintaining water quality, refer to the instructions in the Sundance Spa Chemical Kit supplied with your spa. If you have further questions, please consult your Authorized Sundance Dealer.

pH CONTROL

pH is a measure of relative acidity or alkalinity of water and is measured on a scale of 0 to 14. 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 condition of 7.2 to 7.8. Problems become proportionately severe when this range is exceeded or diminished. A low or high pH will be corrosive to metals in the spa equipment. In addition, the ability of the sanitation agents to keep the spa clean is severely affected as the pH moves beyond the ideal range. That is why almost all spa water test kits contain a measure for pH as well as sanitizer.

SANITIZING

To destroy bacteria and organic compounds in the spa water, a sanitizer must be used regularly. Your Sundance Spa is equipped with The Brominator™, a special compartment built into the floating skimmer gate to hold bromine tablets. By regulating the number of bromine tablets in The Brominator, and the length of the filtration cycles, you can control the amount of bromine which is actively working in your spa water. A bromine residual of 2 to 3 ppm is generally considered desirable.

A two-part bromine system or granular chlorine (dichlor) are also acceptable sanitizers.

IMPORTANT: Do not use chlorine tablets (Trichlor) in your spa.

OPTIONAL OZONE WATER PURIFICATION SYSTEM

If you have elected to have your spa equipped with the optional Sundance ozone water purification system, you will find that your water stays fresh and clear with significantly less bromine usage. You will also probably be able to go longer between complete spa drainings.

Read and follow the instructions included with your Sundance ozone water purification system to determine how to adjust your bromine usage and filter cycles.

OTHER ADDITIVES

Many other additives are available for your spa. Some are necessary to compensate for out-of-balance water, some aid in cosmetic water treatment and others simply make the water feel or smell better.

Your Authorized Sundance Dealer can advise you on the use of these additives.

TROUBLESHOOTING

Your Sundance Spa is the result of many years of careful engineering and a quality first commitment of Sundance personnel. We find that many "problems" are the result of either a misunderstanding of how the spa operates or improper installation.

In the unlikely event your spa is not working the way you believe it should, please first review all the installation and operating instructions in this manual; second, if you are still not satisfied it is working properly, please follow the appropriate troubleshooting instructions.

PROBLEM

Spa does not operate.

PROCEDURE

Check control panel lights. (ILL. No. 6)

If they are ON go to 1.

If they are OFF go to 2.

1. Make sure equipment door is closed.
2. Check resets. If resets fail to hold, call your serviceman.
3. Check for proper power connection.

4. Check power at circuit breaker.
5. Check power supply for full 240 volts, 50 amps.
6. If spa still won't run, call your serviceman.

High speed pump (jets) does not operate.

- Check 1 through 4.
 Check jet indicator light on panel.
 If OFF go to 2.
 If ON go to 1.
7. Depress jet sensor.
 8. Check resets again.

Low Speed Pump (jets) does not operate.

- Check that the energy control system is in "Standard."
 Check 1 through 8.
9. Verify thermostat knob is ON.

Poor jet action.

10. Check jet is in High Speed.
11. Rotate whirlpool knob.
12. Check for adequate water level.
13. Check for dirty filter.
14. Open air controls.

No or low heat.

- Check 1 through 8.
15. Check operating mode (is it in "Economy" or "Standard"). Spa will not heat in "Economy" unless the time clock is engaged.
 16. Check that the flow indicator light (on panel) is ON.
 17. Check that the pump is ON.
 18. Check that thermostat knob is ON.

Your authorized Sundance dealer is a trained service repair center. Should checking the above steps fail to correct the problem, please call your dealer so that he may arrange service.

Your Sundance dealer phone number:

Sundance builds the best spas in the industry. Nonetheless, we are always striving to improve the quality and features of our products. Your input as a Sundance Spa owner is a cherished part of this process. If you have any comments or suggestions, or if you wish to be informed on any new products for your spa, please write to us.

CONGRATULATIONS on your good taste and welcome to the happiest and most relaxed family in the world

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