



**VANTAGE**



**DS-6 Power System Operating Instructions**

- **Congratulations**



## **Thank You!**

Emerald Spas wishes to thank you for your purchase of our Vantage spa. Please be sure to thoroughly read through the following pages for complete instructions on how to operate the control system of your new spa.

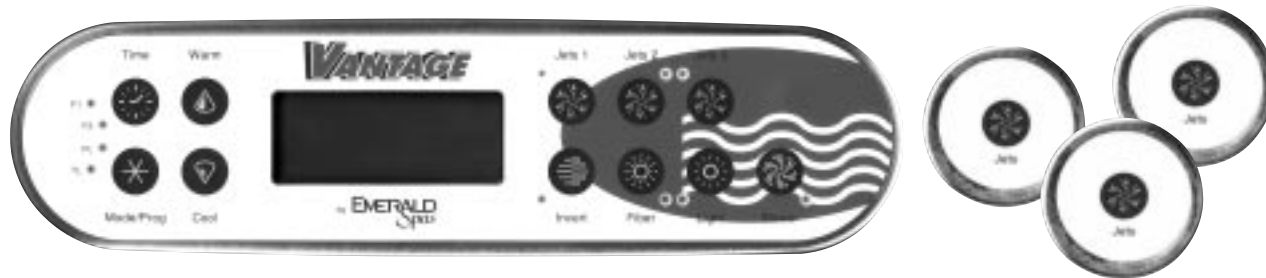
If you have questions after reading this manual, please contact the dealer you purchased your spa from or contact an Emerald Spa Service Representative at 1-800-766-7727.

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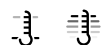
• Spa Side Control Panel DS-6



**Start Up**

When your spa is first powered up, it will go into Priming mode (after displaying some configuration information). The Priming mode will last for up to 4 minutes and then the spa will begin to heat and maintain the water temperature in the Standard mode. You can exit Priming mode early by pressing “Warm” or “Cool.”

**Icon Legend**



**Heat Icon** - When icon is lighting only top and bottom, system is monitoring temperature. When icon is consistently repeating, the spa is heating.



**Optional - Fiber-Optic Light Icon** - Spins when the color wheel is on; stands still when wheel is off.



**Jets Icon** - Spins fast on high speed.



**Light Icon** - On dim, the LCD will show the center circle plus one quarter of the light beams. Half of the light beams will show on medium brightness, and all of the light beams will show on bright.



**Blower Icon** - On low speed the icon will show the smallest bubbles. Half of the bubbles will show medium speed, and all of the bubbles will show high speed.

**Setting the Time**

Once the spa has been properly connected the first time, notice the “Time” icon appearing on the screen.

Press



Then



Press



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

Select the hour by pressing



Or



(Each press changes the time by 1 hour)

Press



to enter.

Press



to exit programming.

Select minutes by pressing



Or



(Each press changes the time by 1 minute)

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

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

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**Note:**

When 2 or 3 pumps of the Vantage are simultaneously engaged, the heater function is temporarily disabled. This is to assure that the spa will operate within the 50 amp electrical requirement.

### Optional Filter Cycle Programming

You are not required to set filter cycles; however, it is an option available to you (see Preset Filter Cycles on pg. 5) To change the filter cycle settings:

Press "Time", "Mode/Prog", "Mode/Prog", "Mode/Prog" within 3 seconds. You will see the "SET FILTER 1" and a flashing "START TIME" icon appear on the display.

Press "Up" or "Down" to choose the filter start time hour. Enter the hour by pressing "Mode/Prog". Press "Up" or "Down" to choose the filter start time minutes. Each press changes the start time by 5 minutes.

Enter the minutes by pressing "Mode/Prog."

Press "Mode/Prog" to see the "SET FILTER 1" and a flashing "END TIME" icon. Adjust the time as done above.

Press "Mode/Prog" to see the "SET FILTER 2" (PM cycle) and a flashing "START TIME" icon. Proceed as above.

Press "Mode/Prog" to see "SET FILTER 2" and a flashing "END TIME" icon. Adjust the time as done above.

Pressing "Mode/Prog" will enter the new filter cycle times into the system and display the current water temperature.

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

If you would like to select continuous filtration, set the filter 1 start and end times to be the exact same time.

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

The start-up temperature is set at 100°F/37.5°C. The last measured temperature is constantly displayed on the LCD.

**Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes.**

### Warm / Cool

Press the "Warm" or "Cool" button once to display the set temperature. Each time either button is pressed again, the set temperature will increase or decrease depending on which button is pressed. After three seconds, the LCD will automatically display the last measured spa temperature.

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### Time

When time hasn't been programmed, the TIME icon flashes. To set the time, press "Time" then "Mode/Prog." Use the "Warm" and "Cool" buttons to adjust time. See previous page for more detailed instructions.

### Mode/Prog

This button is used to switch between standard, economy, and sleep modes. Press "Mode/Prog" to enter mode programming, press "Cool" to cycle through to desired mode (LCD flashes until confirmed), then press "Mode/Prog" to confirm selection.

**Standard mode** maintains the desired temperature. Note that the last measured spa temperature displayed is current only when the pump has been running for at least 2 minutes. The "STANDARD" icon will display until the mode is changed.

**Economy mode** heats the spa to set temperature only during filter cycles. The "ECONOMY" icon will display until mode is changed.

Pressing "Jets 1" while in Economy mode puts the spa in **Standard-In-Economy mode**, which operates the same as Standard Mode, then reverts to Economy Mode automatically after 1 hour. During this time, a press of the "Mode/Prog" button will revert to Economy Mode immediately.

**Sleep mode** heats the spa to within 20°F of the set temperature only during filter cycles. The "SLEEP" icon will display until mode is changed.

### Jets

**Jets 1\*** : Press the "Jets 1" button once to turn pump 1 on or off.

**Jets 2\*** : Press the "Jets 2" button once to turn pump 2 on or off.

**Jets 3\*** : Press the "Jets 3" button once to turn pump 3 on or off.

\* If left on, each pump will automatically turn off after 15 minutes.

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**Blower**

3-speed operation: lo/med/hi/off.

If left on, the blower will automatically turn off after 15 minutes.

**Invert**

Press the “Invert” button to change the numbers in the display to read upside down. Another press returns the display to its normal right-side-up display.

**Light**

Press the “Light” button to turn the spa light on and off, and to shift between dim and bright settings if your light is dimmable. On dim, the LCD will show center circle plus one quarter of the light beams. Half of the light beams will show on medium brightness, and all of the light beams will show on bright.

**Fiber (optional)**

If a fiber-optic light with color wheel is installed, press the “Fiber” button once to start the light and wheel, press it again to stop the wheel, and then again to turn the light off. The fiber icon stands still when the fiber optic light is on by itself, and rotates when the color wheel is also on. If either the light or Fiber is left on, it will automatically turn off after 4 hours.

**Preset Filter Cycles**

On all systems, the pump and the ozone generator, if installed, will run during filtration. At the start of each filter cycle, the blower will run on highest speed for 30 seconds to clean out the air channels. The high speed of pump#1, #2 and #3 will run for 5 minutes.

There are two filter cycles per day. The start/end times of each cycle are programmable. To program, set time as instructed above, then press “Mode/Prog” to advance to the next setting (or to exit after the last setting). The default filter cycles are as follows:

The first filter cycle is automatically activated at 8:00 AM and operates the pump until 10:00 AM. The filter 1 indicator icon will light when filter 1 is running.

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(continued)

The second filter cycle is automatically activated at 8:00 PM and operates the pump until 10:00 PM. The filter 2 indicator icon will light when filter 2 is running.

### **Clean-up Cycle**

When the pump or blower is turned on by a button press, a clean-up cycle begins 30 minutes after the pump or blower is turned off or times out. The pump and the ozone generator, if installed, will run for one hour.

### **Ozone (optional)**

If your Vantage spa is equipped with an ozone generator, the ozone will run whenever the low speed pump runs during filtration or clean-up cycle. On the topside control you will see an O<sup>3</sup> symbol to indicate that the ozonator is functioning.

### **Freeze Protection**

If the temperature sensors detect a drop to 44°F within the heater, then the pump automatically activates to provide freeze protection. The equipment stays on until 4 minutes after the sensors detect that the spa temperature has risen to 45°F or higher. In colder climates, an optional additional freeze sensor may be added to protect against freeze conditions that may not be sensed by the standard sensors. Aux. freeze sensor protection acts similarly except with the temperature thresholds determined by the switch and without a 4-minute delay in turnoff. See your dealer for details.

### **Locking the Panel**

Press "Time", "Jets 1" then "Warm" within 3 seconds. When locked, the PL indicator light will light. All buttons are frozen except the "Time" button. To unlock the panel, press "Time" "Jets 1" then "Cool."

### **Locking the Set Temperature**

Press "Warm" or "Cool" then "Time," "Jets 1," and "Warm" within 3 seconds to activate the lock. The TL indicator light will light when the set temperature is locked.

To unlock the set temperature, press "Warm" or "Cool" then "Time," "Jets 1" and "Cool."

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### Standby Mode

Pressing “Warm” or “Cool” then “Jets 2” will turn off all spa functions temporarily. This is helpful when changing a filter. Pressing any button resets the spa.

### Diagnostic Messages

| Message                     | Meaning  | Action Required   |
|-----------------------------|--|---|
|                             | No message on display.<br>Power has been cut off to the spa.   | The control panel will be disabled until power returns. Spa settings and time of day will be preserved for 30 days with a battery back-up on the DS-6.  |
| <i>HTR TEMP LMT</i>         | “Overheat” - The spa has shut down. One of the sensors has detected 118°F at the heater.   | DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call your dealer or service organization. |
| <i>SPA TEMP LMT</i>         | “Overheat” - The spa has shut down. One of the sensors has detected that the spa water is 110°F.   | DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. At 107°F, the spa should automatically reset. If spa does not reset, shut off the power to the spa and call your dealer or service organization.            |
| <i>FREEZE COND</i>          | “Ice” - Potential freeze condition detected.   | No action required. The pumps and the blower will automatically activate regardless of spa status.  |
| <i>SENSOR A SERVICE REQ</i> | Spa is shut down. The sensor that is plugged into the Sensor “A” jack is not working.  | If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappear when the heater cools.)  |
| <i>SENSOR B SERVICE REQ</i> | Spa is shut down. The sensor that is plugged into the Sensor “B” jack is not working.  | If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat situation and disappear when the heater cools.)  |
| <i>SENSOR SYNC</i>          | Sensors are out of balance. If displayed by itself, it may just be a temporary condition. If it also says “SERVICE REQ'D,” spa is shut down.                         | If the problem persists, contact your dealer or service organization.   |
| <i>HTR FLOW LOW</i>         | A substantial difference between the temperature sensors was detected. This could indicate a flow problem.   | Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. If problem persists, contact your dealer or service organization.  |
| <i>LOW FLOW</i>             | Persistent low flow problems. (Occurs on the third occurrence of the “HTR FLOW LOW” message.) Heater is shut down, but other spa functions continue to run normally. | Follow action required for “HTR FLOW LOW” message. Turn spa off then back on again to restore heating capability.   |

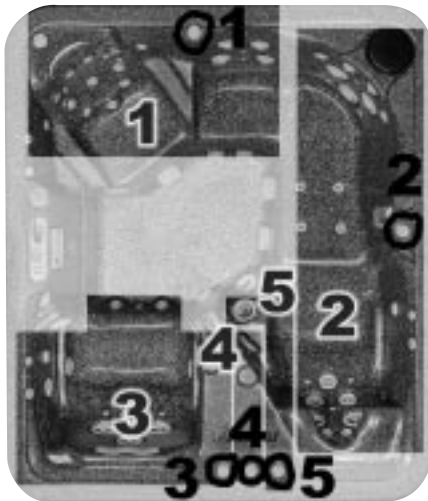
• **Spa Side Control  
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| Message  | Meaning   | Action Required   |
|--|---|---|
| <i>HEATER MAY<br/>BE DRY--<br/>WILL RETEST<br/>SHORTLY</i> | Inadequate water detected in heater.  | Check water level in spa. Refill if necessary. If the water level is okay, make sure the pumps have been primed. Press any button to reset.   |
| <i>HEATER DRY<br/>SERVICE REQ</i>                          | Inadequate water detected in heater. (Displays on third occurrence of "HEATER MAY BE DRY - WILL RETEST SHORTLY" message.) Spa is shut down. | Follow action required for "HEATER MAY BE DRY - WILL RETEST SHORTLY" message. Spa will not automatically reset; you may press any button to reset.  |
| <i>PRIMING MODE<br/>TAKES 4 MIN</i>                        | <ul style="list-style-type: none"> <li>When your spa is first actuated, it will go into Priming mode.</li> </ul>                            | The Priming mode will last for up to 4 minutes and then the spa will begin to heat the spa and maintain the water temperature in the Standard mode.   |
|  | <ul style="list-style-type: none"> <li>Temperature Unknown.</li> </ul>  | After the pump has been running for 2 minutes, the temperature will be displayed.   |
|  | <ul style="list-style-type: none"> <li>Temperature not current in Economy or Sleep Mode.</li> </ul>   | In Economy or Sleep mode, the pump may be off for hours outside a filter cycle. If you wish to see the current spa temperature, either switch to Standard mode or turn Jets1 on for at least two minutes. |
| <i>BACKUP FAIL</i>   | Internal problem detected.  | Repair required. Contact your dealer or service organization.   |
| <i>STANDBY MODE</i>  | Standby Mode has been activated by pressing a button combination on user panel.   | Press any button to leave Standby Mode and return operation.  |
| <i>PH IS LOW<br/>RAISE PH</i>                              | pH is low.  | Add pH increaser according to manufacturer's instructions.  |
| <i>PH IS HIGH<br/>LOWER PH</i>                             | pH is high.   | Add pH decreaser according to manufacturer's instructions.  |
| <i>SANITIZER<br/>LOW</i>                                   | Sanitizer is low.   | Add sanitizer according to manufacturer's instructions.   |
| <i>SANITIZER<br/>HIGH</i>                                  | Sanitizer is high.  | Remove spa cover and allow sanitizer to dissipate.  |

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**Note:**

Below are the air controls located (circled) in the top of the spa and the areas they control.



1. Captain's chair and mid seat
2. Lounger 3. Surround seat
4. Turbo Jet 5. Tsunami Jet

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

| Message      | Frequency      | Action Required  |
|--------------|----------------|--|
| CHECK PH     | Every 7 days   | Test and adjust chemical levels per manufacturer's instructions.     |
| CK SANITIZER | Every 7 days   | Test and adjust chemical levels per manufacturer's instructions.     |
| CLEAN FILTER | Every 30 days  | Remove, clean, and reinstall filter per manufacturer's instructions. |
| TEST GFCI    | Every 30 days  | Test & reset GFCI per manufacturer's instructions.                   |
| DRAIN WATER  | Every 90 days  | Drain and refill spa per manufacturer's instructions.                |
| CLEAN COVER  | Every 180 days | Clean and condition cover per manufacturer's instructions.           |
| TREAT WOOD   | Every 180 days | Clean and condition wood per manufacturer's instructions.            |
| NEW FILTER   | Every 364 days | Install new filter.  |

**Select-a-Flow Operation**



There are three Select-a-Flow valves located on the top coping of the spa. Each valve is located next to the individual on/off remote jet button which in-turn controls one of the three individual water pumps featured on the Vantage. By turning this valve you will be able to control the direct pressure of the water stream exiting the jets that are powered by the individual pump connected to the on/off jet button.