

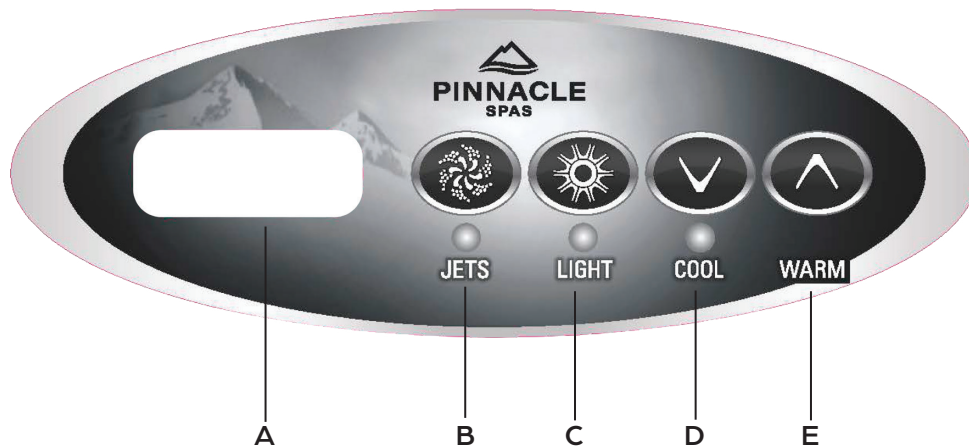


PINNACLE SPAS

Topside Control Instructions

Please refer to the owner's manual for important safety information, manufacturer's recommendations, installation, use, & care instructions.

Topside Display & User Controls



Topside Controls

User functions, operating modes, and programming menus that simplify saving your preferences now and adjusting them later.

A - Digital Display

- Monitor operating mode, water temperature, and error messages when your spa requires attention.

B - Pump & Filtration Cycles, LED Indicator Light

- Two-speed pump
- Set filtration cycles
- LED Indicator illuminated when pump is on.

The pump is programmed to turn off automatically after 20 minutes. Press the PUMP button to turn it back on.

C - Lights & Operating Modes, LED Indicator Light

- Turn lights on, off & select color
- Set the operating mode
- LED indicator illuminated when light is on

D - Temperature Down, Programming Menu, & LED Indicator Light

- Decrease the water temperature
- Program operating mode and filtration cycle settings
- LED Indicator illuminated when the heater is on.
- LED Indicator flashes for approximately 1 minute during polling cycles.

E - Temperature Up & Programming Menus

- Increase the water temperature
- Program operating mode and filtration cycle settings

The ozonator runs when the water is heating, during filtration cycles and when the pump is running on low speed.

Factory Settings

The spa will start in Standard Mode.
The temperature setting is 100°F.
The minimum temperature setting is 80°F.
The maximum temperature setting is 104°F.
Filtration cycles run twice each day for one hour.

Turning the Spa On

When the tub is full, remove the water hose, replace the filter, filter basket, skimmer lid. Make sure water is 1" above the air relief valve and the jets are open. Turn the GFCI on.

Each time the GFCI is turned on, diagnostic messages are displayed before priming mode begins.

User Controls & Filtration Cycles

Turning the Jets On



Your spa is equipped with one two-speed pump. Press the PUMP button once to turn the pump on. Press the PUMP button again to change to High Speed. Press the Pump button again to turn it off.

The pump runs on low speed during filtration and heating cycles and turns off automatically when the cycle ends. To change the speed from low to high, press the PUMP button once. Press it again for low speed. Pressing the PUMP button will not turn the pump off until the cycle is complete.

The pump is programmed to turn off automatically after 20 minutes. Press the PUMP button to turn it back on.

The ozonator runs when the water is heating, during filtration cycles and when the pump is on low speed.

Priming Mode

Priming Mode safely removes air trapped in the lines, which can instantly damage some components.

- Your spa starts in Priming Mode when you turn the GFCI on.
- Priming Mode runs for approximately 6 minutes
- When Priming Mode ends your spa runs in Standard Mode.

When PR is on your display, press the PUMP button twice to turn on the pump on high speed.

If the jets or the pump surges and water flows from jets in some seats but not others, turn the pump off. Make sure water is 1" above the air relief valve and the jets are open. If the pump isn't primed after 1 minute, press the PUMP button to turn pump off. Bleed air from the plumbing unions, verify the T-Stems are up and locked, and if necessary remove debris from the skimmer and suction drain covers. Turn the GFCI on again and repeat the process. If the pump isn't properly primed after the third attempt, turn the GFCI off, and contact technical support for assistance before turning the GFCI on. *Do not let the pump run for more than 2 minutes if it does not prime.*

Polling Cycles in Standard Mode circulate the water for a few minutes every hour to monitor the water temperature. If heating is necessary, the water continues circulating until it reaches the correct temperature. Some topside buttons may not work until the polling cycle is complete.

Water Temperature

Adjusting the Water Temperature Setting



Temperature Up
Maximum setting 104°F



Temperature Down
Minimum setting 80°F

To increase the temperature setting, press the UP button once. While the temperature is flashing on the display, press and release or press and hold the UP button until the desired temperature is displayed. If you pass the desired setting, press the DOWN button until the correct setting is displayed. The new temperature is saved automatically.

To decrease the temperature setting, press the DOWN button once. While the temperature is flashing on the display, press and release or press and hold the DOWN button until the desired temperature is displayed. If you pass the desired setting, press the UP button until the correct setting is displayed. The new temperature is saved automatically.

When you press the temperature UP or DOWN button, wait until the display stops flashing before you press a different button to avoid unintended changes to your programmed settings.

Filtration Cycles



- Filtration cycles run every 12 hours.
- Filtration cycle duration adjusts in increments of one hour.

To change the duration of the filter cycles, press and release the UP button. While the display is flashing, press and release the Pump button, then press and release the UP button to scroll through cycle duration options, from F1 (1 hour filtration cycle) to F8 (8 hour filtration cycle) stopping when your selection is displayed on the LED. Press the "PUMP" button to confirm your selection and exit. Filter cycles can be set for 1, 2, 3, 4, 5, 6, 7, or 8 hours.

Each time you turn the GFCI on, your spa starts in Priming Mode. The first filtration cycle begins approximately 6 minutes later, when Priming Mode is complete. When the filtration cycle begins, the pump will operate on high speed for approximately 1 minute to flush the lines, then on low speed until the filtration cycle is complete. Filtration cycles run every 12 hours. For example, with the factory settings of 1 hour filtration cycles, if you turn your GFCI on at 4:54 your filtration cycles will run from 5 to 6 a.m. and from 5 to 6 p.m. If you want the filtration cycles to run from 3 to 4, turn on the GFCI at 2:54.

Operating Modes & Lighting

Operating Modes

Understanding Operating Modes

Operating modes can be programmed to help regulate energy consumption and reduce operating costs. How often you use your spa and the ambient temperature will help you determine which mode is best for you.

Your spa heats the water, it cannot cool it. In warm weather, the water temperature will not fall below the average high ambient temperature, regardless of the operating mode or water temperature setting.

Standard Operating Mode



- The water temperature setting is consistently maintained.
- The water circulates for a few minutes every hour to monitor the water temperature and continues circulating to heat the water if necessary.

Economy Operating Mode



- The water only heats only during filtration cycles.
- Heating stops when the cycle ends, regardless of the water temperature.
- In cool weather, the spa may not be ready for immediate use.
- The water temperature and EC will flash alternately on the display when the pump is running on low speed. Otherwise, EC is displayed on the topside controls.
- *Do not put your spa in Economy Mode when the ambient temperature is 40°F or lower.*

In moderate weather, setting the filtration cycle to end right before you use your spa can be an effective way to reduce energy consumption. However, in cool weather the water temperature can drop significantly below the temperature setting between filtration cycles.

Sleep Operating Mode



- The water heats to within 20°F of the temperature setting.
- The water only heats during filtration cycles.
- Heating stops when the cycle ends, regardless of the water temperature.
- The water temperature and "SL" flash alternately on the display when the pump is running on low speed. Otherwise, "SL" is displayed on the topside controls

- *Do not put your spa in Sleep Mode when the ambient temperature is 40°F or lower.*

Sleep Mode is ideal for warm weather or if you aren't using the spa for a prolonged period in a moderate climate. Water only heats during filtration cycles to within 20°F of the temperature setting. For example, if your temperature setting is 100°F, your water will only heat to 80°F during filtration cycles. If your water temperature is above 80°F the heater does not turn on during filtration cycles.

Programming Operating Modes



To change operating modes, press & release the UP button. While the display is flashing, press the Light button. The current operating mode will flash on the display. To scroll to the next operating mode press the UP button then the Light button until your operating mode selection is displayed on the topside controls.

Freeze Protection

If the water temperature falls to 44°F the spa will automatically turn on and will run for 4 minutes after the water temperature reaches 46°F to prevent freezing. Do not put your spa in Economy or Sleep Mode when the ambient temperature is 40°F or lower. Limited heating during filtration cycles may not keep water above 44°F, initiating Freeze Protection for extended periods if not continuously.

Lighting

Turning the Lights On, Off, & Selecting the Color



Turn the lights on & off: Press and release the light button once to turn the lights on. All light colors rotate continuously. Press the Light button to turn off.

Select a solid light color: Press and release the light button once to turn the lights on. All colors will rotate. When the light rotates to the color of your choice, quickly press and release the light button twice. The first quick press turns the lights off, the second quick press turns them back on in the color you selected. Press the light button to turn the lights off.

If the lights have been on for more than 1 minute the next press of the LIGHT button will turn the lights off.

The lights time out automatically after 2 hours if the light button isn't pressed to turn the lights off. Press the Light button to turn the lights back on. *Lighting features work in tandem with jets and water features (if equipped).*

Troubleshooting

Electrical Connections & Topside Error Messages

If your spa doesn't operate as expected when you turn on the GFCI:

- Make sure your GFCI is installed properly and the terminal block is wired correctly.
- Check the voltage at the terminal block and check for loose wires. If necessary secure the connection. The torque range for supply line connections to the terminal block is 27 to 30 in. lbs.
- Check for loose or disconnected wires which may have been disturbed during the electrical installation.
- If your pump surges or jets sputter you may have an airlock. Instructions to release an airlock are on the back cover.

An error message is displayed on your topside controls if sensors detect an abnormality that requires your attention. Many error codes can be resolved by cleaning or replacing your filters and removing debris from the skimmers. If following the recommendations in this troubleshooting guide does not clear the error code, turn the GFCI off and contact technical support at:

lpiinc.com/service/

or call

423-349-2900 option 6 Monday – Friday 10 am – 5 pm.

Message	Meaning	Possible Solution
	No message to display No Power to Spa	Control panel disabled until power is restored. Settings have been preserved.
--	Temperature Unknown	Temperature will be displayed after pump has been running for 2 minutes
HH	OVERHEAT - Spa shut down to protect against excessively high water temperature in heater chamber at sensor	DO NOT ENTER THE WATER! Turn off the GFCI. Make sure the water level is adequate. Change filter if dirty, remove debris from the filter, filter basket and suction drain cover. Make sure T Stems are up & locked.
OH	OVERHEAT - Spa has shut down to protect against high water temperatures in heater chamber at sensor	DO NOT ENTER THE WATER! Turn off the GFCI. Make sure the water level is adequate. Change filter if dirty, remove debris from the filter, filter basket and suction drain cover. Make sure T Stems are up & locked.
IC	Ice - Potential for freezing	Check frequently to be sure pump is on & water is circulating to prevent freezing.
SA	Spa shut down - Sensor A	DO NOT ENTER THE WATER! Turn off the GFCI. Make sure the water level is adequate. Change filter if dirty, remove debris from the filter, filter basket and suction drain cover. Make sure T Stems are up & locked.
SB	Spa shut down - Sensor B	DO NOT ENTER THE WATER! Turn off the GFCI. Make sure the water level is adequate. Change filter if dirty, remove debris from the filter, filter basket and suction drain cover. Make sure T Stems are up & locked.
Sn	Sensors out of balance. Temporary if alternating with water temperature. If flashing by itself, spa has shut down	DO NOT ENTER THE WATER! Turn off the GFCI. Put spa in Standard Mode and reduce water temperature so water circulates hourly without heating. Make sure the water level is adequate. Change filter if dirty, remove debris from the filter, filter basket and suction drain cover. Make sure T Stems are up & locked.
HL	Significant difference between sensors - likely flow problem	DO NOT ENTER THE WATER! Turn off the GFCI. Make sure the water level is adequate. Change filter if dirty, remove debris from the filter, filter basket and suction drain cover. Make sure T Stems are up & locked.
LF	Persistent Flow Problems Heater shut down, other functions will run normally	DO NOT ENTER THE WATER! Turn off the GFCI. Make sure the water level is adequate. Change filter if dirty, remove debris from the filter, filter basket and suction drain cover. Make sure T Stems are up & locked.
dr	Possible low water levels, low flow or air bubbles in heater. Spa inoperable for 15 minutes.	Check water level and refill if necessary. Bleed air. Make sure slice valves are up and locked, remove obstruction from filter basket and suction covers. Spa has shut down for 15 minutes, Press any button to reset.
dy	Inadequate water in heater. Likely low water level. Spa shut down.	Check water level and refill if necessary. Make sure slice valves are up and locked, remove obstruction from filter basket and suction covers. Press any button to reset.



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Start-Up & Programming Quick Reference

Priming Mode



Whenever you turn on the GFCI, your spa starts in Priming Mode. When "Pr" appears on your display, press the pump button twice to run the pump at high speed. Priming Mode ends after approximately 6 minutes. Your spa will be in Standard Mode.

Larger jets rotate to open & close the jet



Small fixed jets are always open.
Jet appearance varies by model.

Airlocks

If the pump is on but it surges or water isn't flowing from all of the jets, you may have an air lock.

- Press the pump button once to turn the pump off.
- Make sure the air relief valve near the filter is submerged.
- Rotate the outer rim of the larger jets counterclockwise to ensure they're open.
- Turn the pump back on.



If the airlock isn't resolved, turn the pump off.

- Slowly loosen the plumbing union on top of the pump.
- Retighten when water trickles from the union.
- Restart the pump and check the union for leaks. If tools are necessary to tighten the union, wrap it with a towel and rotate no more than 1/4 turn.

Adjust the Water Temperature Setting



Press & release the UP button. While the temperature is flashing on the display, press & hold or press & release the UP or DOWN button until the desired temperature is displayed. *The last change is saved and the display returns to the home screen automatically.*

Change the Operating Mode

Press & release the UP button then the LIGHT button to change the operating mode.



Standard Mode: Your water temperature is continuously maintained. If your water temperature falls a few degrees the setting, the pump automatically turns on and circulates on low speed until the correct temperature is reached



Economy Mode: Your water only heats during filtration cycles. EC is displayed when the water temperature is not current. If the pump is running on low speed, the water temperature and EC flash alternately on the display.



Sleep Mode: Heats your water only during filter cycles to within 20°F of the set temperature. SL is displayed on the topside controls. If the pump is running on low speed, the water temperature and SL flash alternately on the display.

Do not put your spa in Sleep or Economy Modes when the ambient temperature is 40°F or lower. Limited heating may not adequately protect your spa from freezing in cold temperatures.

Filtration Cycle Start Time & Cycle Duration

Turn your GFCI on

Priming Mode
Approximately
6 minutes

1st Filtration Cycle
Start time set when
Priming Mode ends

2nd Filtration Cycle
Starts 12 hours after
1st filtration cycle.



Filter duration is programmable for 1, 2, 3, 4, 5, 6, 7, or 8 hours.

Press & release the UP button then press & release the PUMP button. Press & release the UP button to scroll through duration options. When the correct number of hours is displayed, press the PUMP button to save the selection and exit the programming menu.