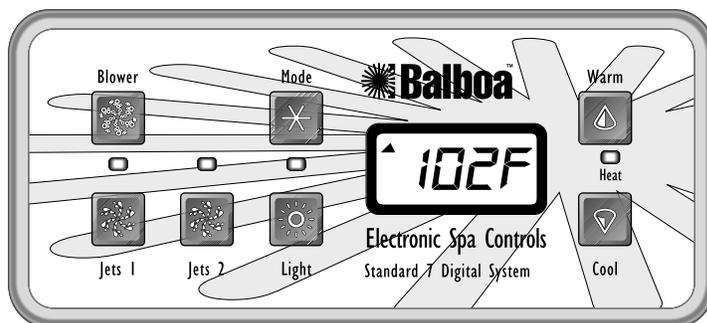


# 2000LE M-7 Control Reference Card

*Non-Circ Operation*

## Initial Start-up

When your spa is first activated, it will go into Priming mode, indicated by "Pr." Please see the M-7 Installation Instruction Manual for complete instructions on Power-up and Pump Priming. The Priming mode will last for less than 5 minutes and then the spa will begin normal operation in Standard Mode.



## Temp Set (80°F - 104°F / 26°C - 40°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 pump 1 (Jets 1) has been running for at least 2 minutes.**

Press the "Warm" or "Cool" button to display and adjust the set temperature. After three seconds, the LCD will automatically display the last measured spa temperature.

## Jets 1

Touch the "Jets 1" button once to activate the low speed of pump 1 and again for the high speed. Press the "Jets 1" button again to turn off pump 1. If left running, the pump's low speed will automatically turn off after 4 hours, and the pump's high speed will automatically turn off after 15 minutes. The pump's low speed runs when the spa is heating, when a filter cycle is activated, or when a freezing condition is detected. When the low speed turns on automatically, it cannot be deactivated from the panel; however, the high speed may be started.

## Jets 2

Touch the "Jets 2" button once to turn pump 2 on or off, and to shift between low and high speeds if it is a two-speed pump. If left running, pump 2 will automatically turn off after 15 minutes.

**Note: Either pump can also be activated by an optional auxiliary control button.**

## Light

Press the "Light" button to turn the spa light on and off. If left on, the light automatically turns off after 4 hours.

If a fiber optic light is installed, press the "Light" button once to start the light and wheel, press it again to stop the wheel, and then again to turn the light off.

## Blower

This button turns the blower on and off. The blower automatically turns off after 15 minutes.

## Mode

This button is used to switch between Standard, Economy, and Sleep Modes.

**Standard Mode** is programmed to maintain the desired temperature. Note that the last measured spa temperature displayed is current only when pump 1 has been running for at least 2 minutes. "Std" will be displayed momentarily when you switch into Standard Mode.

**Economy Mode** heats the spa to the set temperature only during filter cycles. "Ecn" will display solid when temperature is not current, and will alternate with temperature when temperature is current.

**Sleep Mode** heats the spa to within 20°F/11°C of the set temperature only during filter cycles. "SLP" display solid when temperature is not current, and will alternate with temperature when temperature is current.

## Preset Filter Cycles

The first filter cycle begins 6 minutes after the spa is energized. The second filter cycle begins 12 hours later. Filter duration is programmable for 2, 4, 6, 8 hours or for continuous filtration (indicated by "FILT"). The default filter time is 2 hours. To program, press "Warm" or "Cool," then "Jets1." Press "Warm" or "Cool" to adjust. Press "Jets1" to exit programming.

Pump 2 purges for 5 minutes and the blower purges for 30 seconds at the beginning of each filter cycle. The low speed of pump 1 runs during filtration and the ozone sterilizer (if installed) will be enabled.

## Freeze Protection

If the temperature sensors detect a drop to approximately 44°F/6.7°C within the heater, then pump 1 and the blower will automatically activate to provide freeze protection. The equipment stays on until 4 minutes after the sensors detect that the spa temperature has risen to approximately 45°F/7.2°C 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.

## Diagnostic Messages

Message	Meaning	Action Required
	No message on display. Power has been cut off to the spa.	The control panel will be disabled until power returns. Spa settings will be preserved until the next power up.
--	Temperature unknown.	After the pump has been running for 2 minutes, the temperature will be displayed.
<i>QHH</i>	“Overheat” - The spa has shut down. One of the sensors has detected approximately 118°F/47.7°C 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>QHS</i>	“Overheat” - The spa has shut down. One of the sensors has detected that the spa water is 110°F/43.3°C.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. At approximately 107°F/41.7°C, 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>ICE</i>	“Ice” - Potential freeze condition detected.	No action required. The pump and blower will automatically activate regardless of spa status.
<i>SnA</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>SnB</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>SnS</i>	Sensors are out of balance. If alternating with temperature, it may just be a temporary condition. If flashing by itself, spa is shut down.	If the problem persists, contact your dealer or service organization.
<i>HFL</i>	A substantial difference in temperature has been detected between temperature sensors. 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>LF</i>	Persistent low flow problems. (Displays on the fifth occurrence of the “ <i>HFL</i> ” message within 24 hours.) Heater is shut down, but other spa functions continue to run normally.	Follow action required for “ <i>HFL</i> ” message. Turn spa off then back on again to restore heating capability.
<i>dr</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>dry</i>	Inadequate water detected in heater. (Displays on third occurrence of “ <i>dr</i> ” message.) Spa is shut down.	Follow action required for “ <i>dr</i> ” message. Spa will not automatically reset; you may press any button to reset.

### 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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