

M-1 Control Reference Card

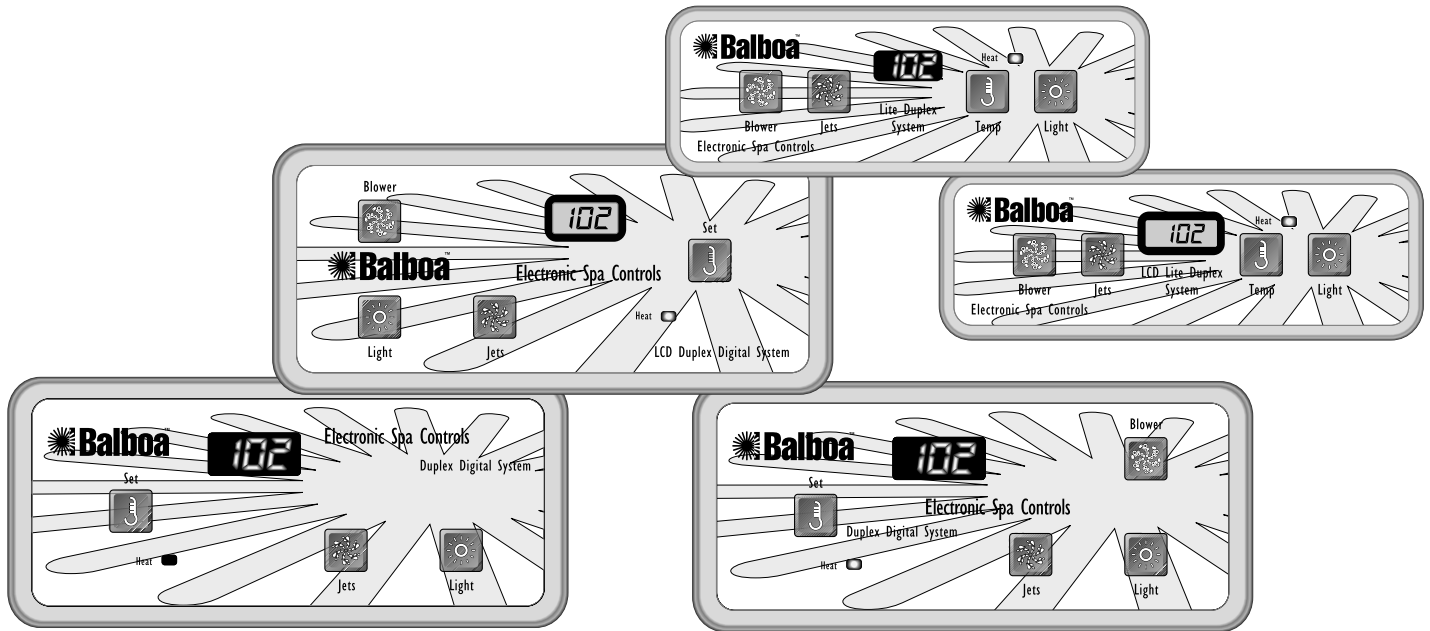
Quick reference for all M-1 control systems.

Initial Start-up


When your spa is first actuated, it will be in the default setting and will heat the water to 100°F or your desired set temperature. Depending upon the size of the spa and heater capacity, it should be ready for use in a matter of hours.

Control Panel Options

Your spa will have one of the following control panels installed. These instructions include all possible features found on an M-1 control system. Please refer to your spa manufacturer's literature for features found on your particular spa.




Temperature Adjustment (Range: 80°F - 104°F)


Temperature adjustment is controlled by pushing the  pad. The display shows the actual water temperature unless the pad is pressed. When the pad is pressed, the display will show the set temperature. Pressing the pad a second time will cause the set temperature to increase or decrease depending on what direction was last chosen. Each press to follow will change the set temperature in the same direction.

If the opposite direction is desired, release the pad and let the display revert to the actual water temperature. Press the pad to display the set temperature, and again to make the temperature change in the desired direction.

Jets

Press the  pad to turn on the low speed of the pump. Press the pad again to turn on the high speed of the pump. (If the spa has a 2nd pump, press the pad again to turn on the high speed of both pumps. Then, press the pad again for pump 2 only.) Press the pad a final time to turn off the pump(s). Due to Automatic Spa Control, the low speed of the pump will start automatically when the heater is turned on, when a filter cycle is activated, or when a freeze condition is detected. If the low speed of the pump is on under Automatic Spa Control, it cannot be deactivated from the panel; however, the high speed of the pump(s) may be started. If left on, the low speed of the pump will automatically turn off after 4 hours; the high speed will turn off after 30 minutes.

Blower (optional)

Press the  pad to turn the blower on and off. The blower will automatically turn itself off after 30 minutes. (Note: If the system is in 20A mode, the blower will revert to a lower speed if the high speed of the pump is on.)

Light

Press the  pad to turn the spa light on and off. The light will automatically turn off after 4 hours.

Filtration

If your spa has a circulation pump and an ozone generator, each will run 24 hours per day to constantly maintain the spa water. Also, once a day, the blower will run for 30 seconds and the high speeds of pump 1 and pump 2 will run for 5 minutes.

Preset Filter Cycles (models not equipped with circulation pumps)

Your spa will automatically filter itself twice each day. The first filter cycle will begin 1 minute after the spa is energized. The second filter cycle will begin 12 hours after the start of the first filter cycle. Filter duration is programmable at the topside panel for 2, 4, 6, or 8 hours. The default filter time is 2 hours. To program, press the "Set" pad, then the "Jets" pad. Press the "Set" pad to select the filter duration. Press the "Jets" pad again to exit the programming mode. During filtration, the low speed of the pump will run. To clean out the air channel, the blower will run for 30 seconds and the high speed of pump 2 will run for 5 minutes at the start of the first filter cycle. The ozone generator will be disabled for 1 hour when any function button is pressed, then turns on for 4 hours with the low speed of the pump to clean the spa.

Freeze Protection

If the high-limit sensor detects 40°F at the heater, then the pump(s) automatically activates to provide freeze protection. This is a normal spa function; no corrective action is necessary. The equipment stays on until the sensor detects 45°F at the heater. Freeze protection is enabled regardless of the spa's status.

Note: In colder climates, an optional **additional** freeze sensor is used to protect against freeze conditions. See your dealer for details.

Diagnostic Messages

- OH Overheat Protection (Spa is deactivated)**
DO NOT ENTER THE WATER. If the spa water has reached 112°F, remove the spa cover to cool the water. Overheating may occur if the filter cycle is set too long. At 110°F, the spa should reset itself. If the high-limit sensor detects 118°F at the heater, the spa will shut down. When the heater cools to 110°F, press any button to reset the spa. If the spa will not reset, then shut off power to the spa and call your dealer or service organization.
- FL Flow Switch Detection**
A pressure switch is not working. Call your dealer or service organization.
- Sn Sensor (Spa is deactivated)**
The high-limit sensor or water temperature sensor is not working. Call your dealer or service organization.

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.

