GL84P Tech Sheet

Balboa
System PN 56168-02

System Model # GL8-GL84P-RCA-3.0K
Software Version # 37
EPN # 4085

Base PCBA – PN 56169-02
PCB GL8000 – PN 22960 Rev B or C
HEX File – 10013937_GL84P_2.hex
Configuration Signature – 8D869BFE

Base Panels
ML900
ML700
ML554
ML551

Aux Panels
AX10A1
AX10A2
AX10A3
AX10A4

AX40

See last pages for panel details.

Template used: 40598-v37_A.pdf 03/05/2009
56168-02_97_B.pdf 06/25/2013

BALBOA water group

System Revision History

System PN	EPN	Date	Requested By	Changes Made
56168	3627	09-13-2011	BWG	Replacement for GL8KM3P4 (54582) with more flexibility
56168-01	3728	01-11-2012	BWG	Add DIP Switches to select P2 as 1-speed or 2-speed
56168-02	4085	06-17-2013	BWG	Remove fiber-optic / lights 2 option, add blower option.

Basic System Features and Functions

Power Requirements

Single Service [3 wires (line, neutral, ground)]

- 230VAC, 50Hz, 1~, 16A/32A, (Circuit Breaker rating = 20A/40A max.)

Dual Service [5 wires (line 1, neutral 1, line 2, neutral 2, ground)]

- 230VAC, 50Hz, 1~, 2x 16A, (Circuit Breaker rating = 20A max each service.)

3-Phase Service [5 wires (line 1, line 2, line 3, neutral, ground)]

- 400VAC, 50Hz, 3N~, 16A, (Circuit Breaker rating = 20A max each phase line.)
- IMPORTANT - Service must include a neutral wire, with a line to neutral voltage of 230VAC.

Setup 1 (As Manufactured)

- 230V Pump 1, 2-Speed
- 230V Pump 2, 2-Speed
- 230V Pump 3, 1-Speed
- 230V Pump 4, 1-Speed
- 230V Ozone
- 10V Spa Light
- 230V Audio\Visual (Stereo)
- 3.0kW Heater *

Options

- 230V Pump 2, 1-Speed or Disabled
- 230V Pump 3, 2-Speed or Disabled
- 230V Pump 4, 2-Speed or Disabled
- 230V Circ Pump
- 230V Blower, 1-Speed

Topside Panel

- ML900

Setups 2, 3 and 4 have the same equipment options, but different panels.

Setup 2

Topside Panel

- ML700

Setup 3

Topside Panel

- ML551 / 554 w/ 4-pump overlay

Setup 4

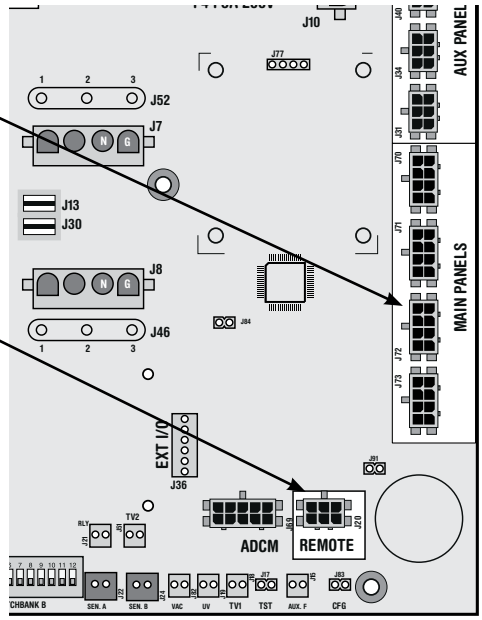
Topside Panel

- ML553 or ML551/554 w/ 3-pump overlay

* Heater wattage is rated at 240V.

Additional Options

- Full Feature Dolphin Remote
  and Spa-only Dolphin Remote
- Spa Monitor
  Connects to Main Panel terminal J70, J71, J72, or J73
- IR Dolphin Receiver Modules
  Connects to Remote terminal J20
- Ozone Generator
  Connects to terminal J4
- MoodEFX Lighting
  Connects to Spa Light terminal J10
- FiberEFX Lighting
  Connects to Spa Light terminal J10
- Stereo System
  Connects to A.V. terminal J5



Persistent Memory and Powering Up

Any time you change DIP Switches or Software Configuration Settings that affect parameters the user can change (any filter settings, set temperature default, Celsius vs Fahrenheit, 12-hour vs 24-hour time, reminders suppression, etc), you must reset Persistent Memory for your DIP Switch or Software Configuration Settings changes to take effect. You should also reset Persistent Memory after loading a new file into a board (using the ESM, purchased seperately).

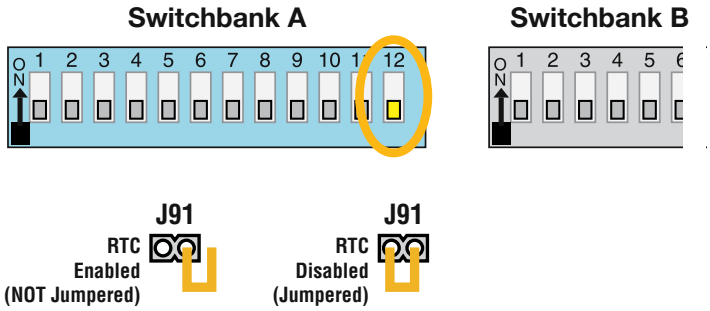
To reset Persistent Memory:

- Power down.
- Set A12 ON (See illustration below).
- Power up.
- Wait until "Pr" or "PRIMING MODE" is displayed on your panel. Note: If "CFE" appears see section below.
- Set A12 OFF. (This can be done safely with power on if you use a nonconductive tool such as a pencil to push the switch back to the OFF position. Otherwise, power down before setting A12 OFF)
- Power up again (if you powered down in the previous step).
- For all other power ups, leave A12 OFF.

About Persistent Memory and Time of Day Retention:

This system uses memory that doesn't require a battery to store a variety of settings. What we refer to as Persistent Memory stores all the User Preferences, as well as all the filter settings, the set temperature, and the heat mode.

Persistent Memory is not used for Time of Day. Time of Day needs to be "kept running" (not just stored) while the power is off, so a separate Real Time Clock feature (on all models except the EL1000, EL1500 v34 and GL1500 v34) keeps track of Time of Day while the unit is off. Time of Day Retention, and Time of Day Retention alone, is controlled by the J91 jumper. J91 must be set according to main system panel used.



CFE message on power up:

If "CFE" appears before (and instead of) "Pr" or "PRIMING MODE", you have not configured DIP Switches and/or Software Configuration Settings in a valid manner. This must be corrected before you can reset Persistent Memory.
The switch numbers, jumpers, or configuration settings displayed after "CFE" are ones with which the system has found a configuration problem. For example:

- "CFE A5 b2" would mean that the combination of how you've set A5 and how you've set B2 is not supported on this system.
- "CFE J99" would mean that there is a problem with jumper J99
- "CFE P3.1 bL.1" would mean that the combination of how you've set pump 3 for 1-speed and blower for 1-speed is not supported on this system.
- "CFE P3_ bL_" would mean that the combination of how you've set DIP switches which have been assigned to pump 3 and blower is not supported on this system.

Power Up Display Sequence

Upon power up, you should see the following on the display:

- Three numbers in a row, which are the SSID (the System Software ID). The third display of these numbers is the Software Version, which should match the version of your system. For example, if these three numbers are 100 134 26, that is a Mach 3 EL8000 at version 26.
- If there is a Configuration Error, the CFE message (see above) will appear at this point (and none of the messages below will display). Otherwise what comes next is:
- An indication of either the input voltage detected (EL1000, 1500, 2000), or the heater wattage range supported (EL8000/GL1500/GL2000/GL8000).
  Heater wattage display: "1-3" means the system supports a heater from 1 kW to 3 kW. "3-6" means the system supports a heater from 3 kW to 6 kW. "3-3" means the system supports a 3 kW heater only. (These ranges may be modified slightly in the case of special heaters, which the next bullet covers.)
  Input voltage display: A system showing "240" supports 3 kW to 6 kW heaters. A system showing "120" supports the very same heaters, although at 120V those heaters will function at only 1/4 of their 240V rated wattage. (The system shows only either "240" or "120" as a general indication of input voltage; it does not show the actual input voltage.)
- If your system is using a special type of heater, a display such as "H6" may appear next. If your system is using the generic Balboa heater, no heater type display will appear.
- "Pr" or "PRIMING MODE" will appear to signal the start of Priming Mode.

At this point, the power up sequence is complete. Refer to the User Guide for the ML Series panel on your system for information about how the spa operates from this point on.

Wiring Configuration and DIP Settings

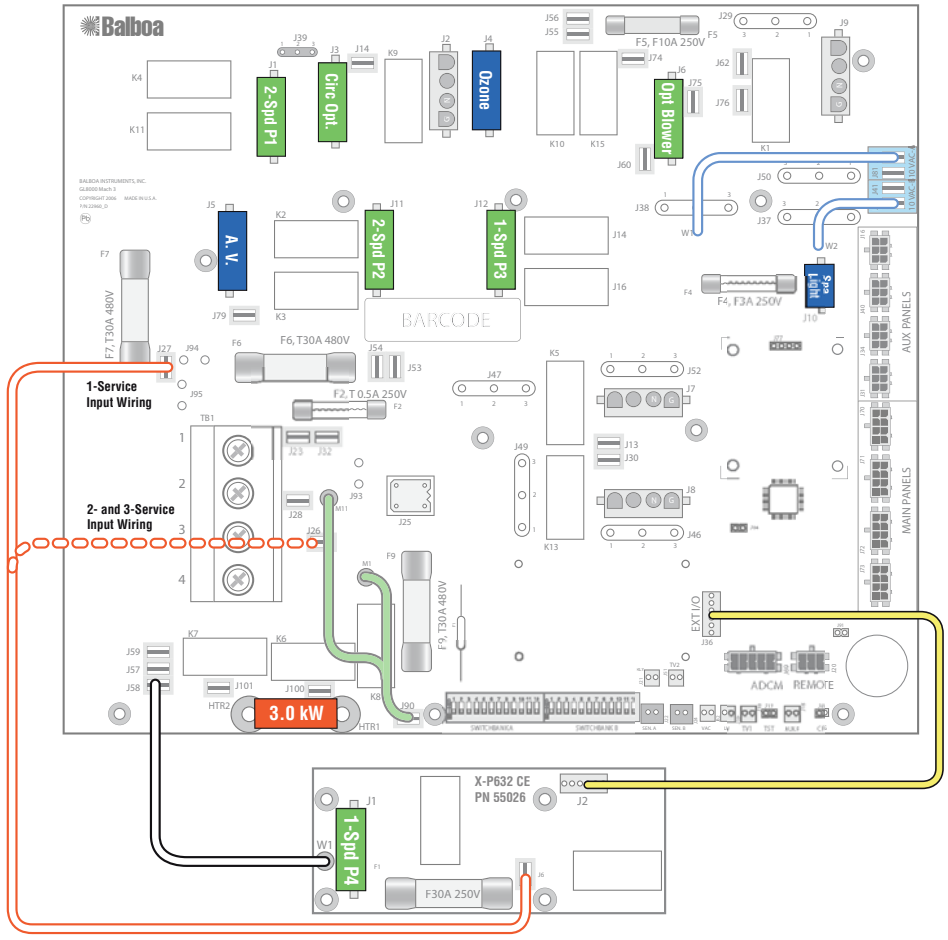
Setup 1 (As Manufactured)

- 230V Pump 1, 2-Speed
- 230V Pump 2, 2-Speed
- 230V Pump 3, 1-Speed
- 230V Pump 4, 1-Speed
- 10V Spa Light
- 230V Ozone
- 230V A\V (Stereo)
- 3.0kW Heater
- ML900 Main Panel

HiPot Testing Note:

Disconnect slip terminal with green wires from J90 prior to performing HiPot test. Failure to disconnect will cause a false failure of the test.

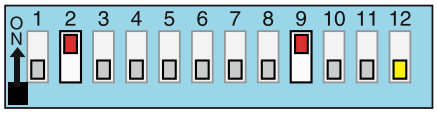
Reconnect terminal to J90 after successful completion of HiPot test.



ML900
J70, J71, J72 or J73

WARNING: Main Power to system should be turned OFF BEFORE adjusting DIP switches.
WARNING: Persistent Memory (A12) must be RESET to allow new DIP switch settings to take effect. (See Persistent Memory page)

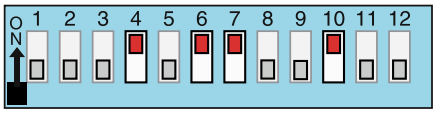
Switchbank A



A1, Test Mode OFF
A2, + 1 Pump w/Heat
A3,
A4,
A5, Filter by Time of Day
A6, Scrunching is OFF

A7, See Circ Table
A8, See Circ Table
A9, See Pump 2 Table
A10, No Edit
A11, Special Amp Rule OFF
A12, Memory ON

Switchbank B



B1, See Pump 2 Table
B2, See Pump 3 Table
B3, See Pump 3 Table
B4, See Pump 3 Table
B5, See Pump 4 Table
B6, See Pump 4 Table

B7, See Pump 4 Table
B8, Do Not Use
B9, Blower ON/OFF
B10, Spa Light ON/OFF
B11, AX = J1, J2, J3, J4
B12, ML550 Standard Config

SSID #
100
139
37

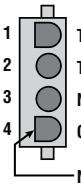
RTC Enabled — J91

Config Settings Enabled — J83

Wiring Color Key

- Neutral (Common) AC Connections
- Special AC Connections
- Line AC Connections
- 10 Volt Connections
- Relay Control Wires

Board Connector Key



1 Typically Line voltage
2 Typically Line voltage for 2-speed pumps
3 Neutral (Common)
4 Ground

Note flat sides in connector

Wiring Configuration and DIP Settings

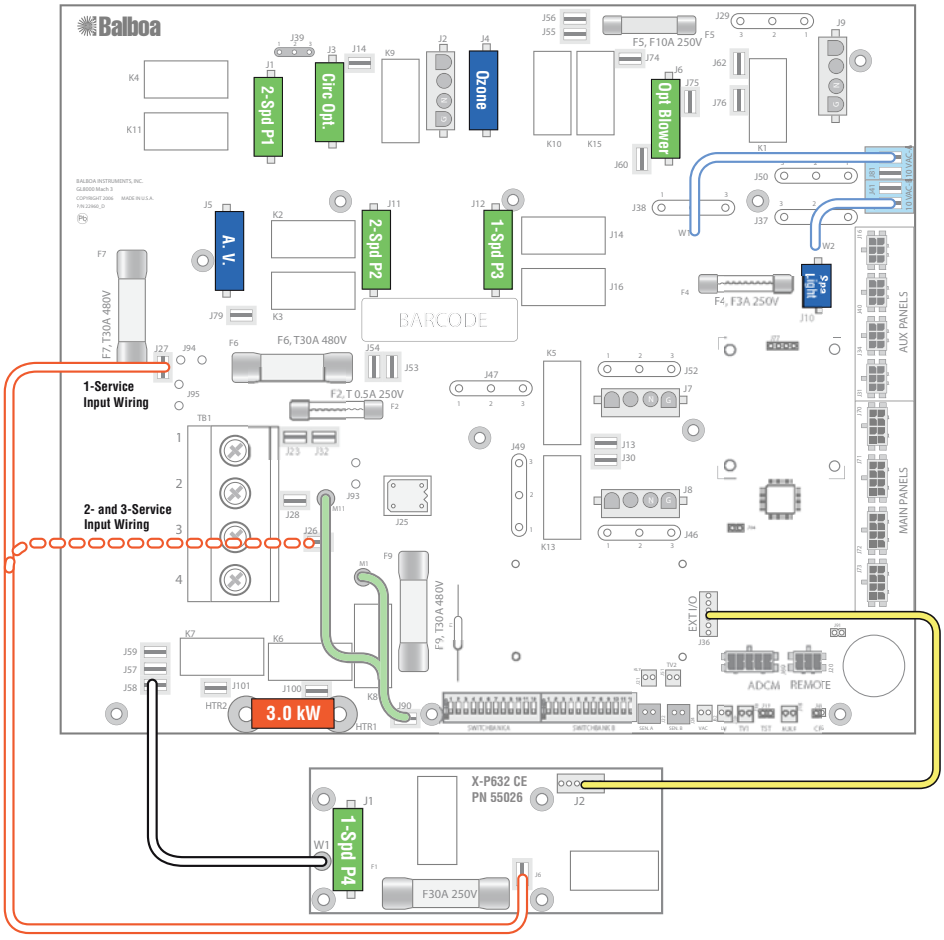
Setup 2

- 230V Pump 1, 2-Speed
- 230V Pump 2, 2-Speed
- 230V Pump 3, 1-Speed
- 230V Pump 4, 1-Speed
- 10V Spa Light
- 230V Ozone
- 230V A\V (Stereo)
- 3.0kW Heater
- ML700 Main Panel

HiPot Testing Note:

Disconnect slip terminal with green wires from J90 prior to performing HiPot test. Failure to disconnect will cause a false failure of the test.

Reconnect terminal to J90 after successful completion of HiPot test.

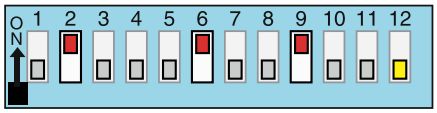


AX10A4
J16, J40, J34 or J31

ML700
J70, J71, J72 or J73

WARNING: Main Power to system should be turned OFF BEFORE adjusting DIP switches.
WARNING: Persistent Memory (A12) must be RESET to allow new DIP switch settings to take effect. (See Persistent Memory page)

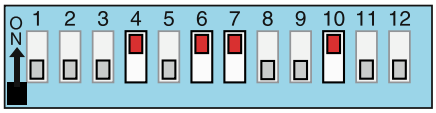
Switchbank A



A1, Test Mode OFF
A2, + 1 Pump w/Heat
A3,
A4,
A5, Filter by Time of Day
A6, Scrunching is ON

A7, See Circ Table
A8, See Circ Table
A9, See Pump 2 Table
A10, No Edit
A11, Special Amp Rule OFF
A12, Memory ON

Switchbank B



SSID #
100
139
37

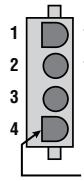
B1, See Pump 2 Table
B2, See Pump 3 Table
B3, See Pump 3 Table
B4, See Pump 3 Table
B5, See Pump 4 Table
B6, See Pump 4 Table

B7, See Pump 4 Table
B8, Do Not Use
B9, Blower ON/OFF
B10, Spa Light ON/OFF
B11, AX = J1, J2, J3, J4
B12, ML550 Standard Config

Wiring Color Key

- Neutral (Common) AC Connections
- Special AC Connections
- Line AC Connections
- 10 Volt Connections
- Relay Control Wires

Board Connector Key



1 Typically Line voltage
2 Typically Line voltage for 2-speed pumps
3 Neutral (Common)
4 Ground

Note flat sides in connector

Wiring Configuration and DIP Settings

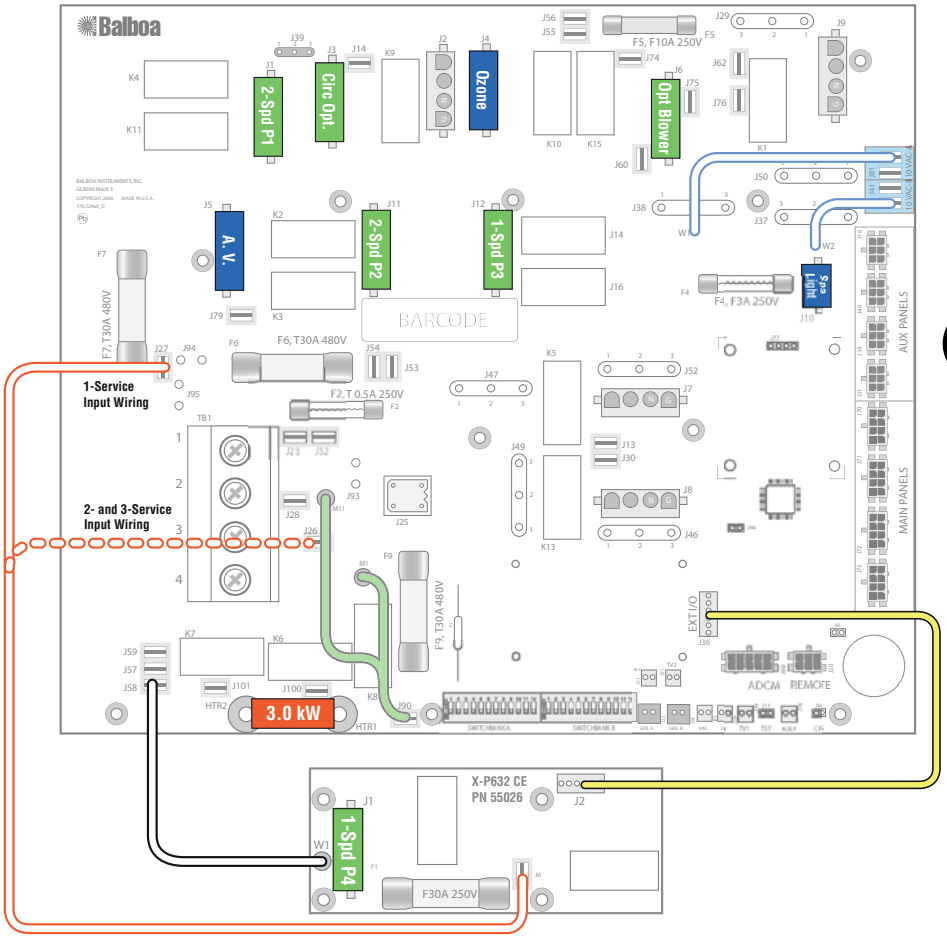
Setup 3

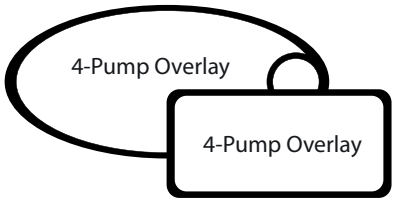
- 230V Pump 1, 2-Speed
- 230V Pump 2, 2-Speed
- 230V Pump 3, 1-Speed
- 230V Pump 4, 1-Speed
- 10V Spa Light
- 230V Ozone
- 230V A\V (Stereo)
- 3.0kW Heater
- ML551 or ML554

HiPot Testing Note:

Disconnect slip terminal with green wires from J90 prior to performing HiPot test. Failure to disconnect will cause a false failure of the test.

Reconnect terminal to J90 after successful completion of HiPot test.

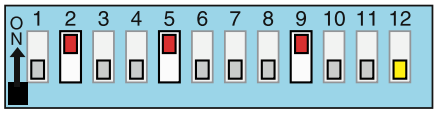




ML551 or ML554
J70, J71, J72 or J73

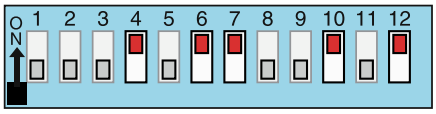
WARNING: Main Power to system should be turned OFF BEFORE adjusting DIP switches.
WARNING: Persistent Memory (A12) must be RESET to allow new DIP switch settings to take effect. (See Persistent Memory page)

Switchbank A



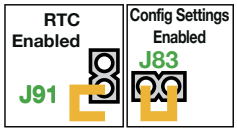
A1, Test Mode OFF
A2, + 1 Pump w/Heat
A3,
A4,
A5, Filter by Duration
A6, Scrunching is OFF
A7, See Circ Table
A8, See Circ Table
A9, See Pump 2 Table
A10, No Edit
A11, Special Amp Rule OFF
A12, Memory ON

Switchbank B



SSID #
100
139
37

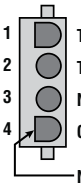
B1, See Pump 2 Table
B2, See Pump 3 Table
B3, See Pump 3 Table
B4, See Pump 3 Table
B5, See Pump 4 Table
B6, See Pump 4 Table
B7, See Pump 4 Table
B8, Do Not Use
B9, Blower ON/OFF
B10, Spa Light ON/OFF
B11, AX = J1, J2, J3, J4
B12, ML550 Custom Config



Wiring Color Key

- Neutral (Common) AC Connections
- Special AC Connections
- Line AC Connections
- 10 Volt Connections
- Relay Control Wires

Board Connector Key



1 Typically Line voltage
2 Typically Line voltage for 2-speed pumps
3 Neutral (Common)
4 Ground

Note flat sides in connector

Wiring Configuration and DIP Settings

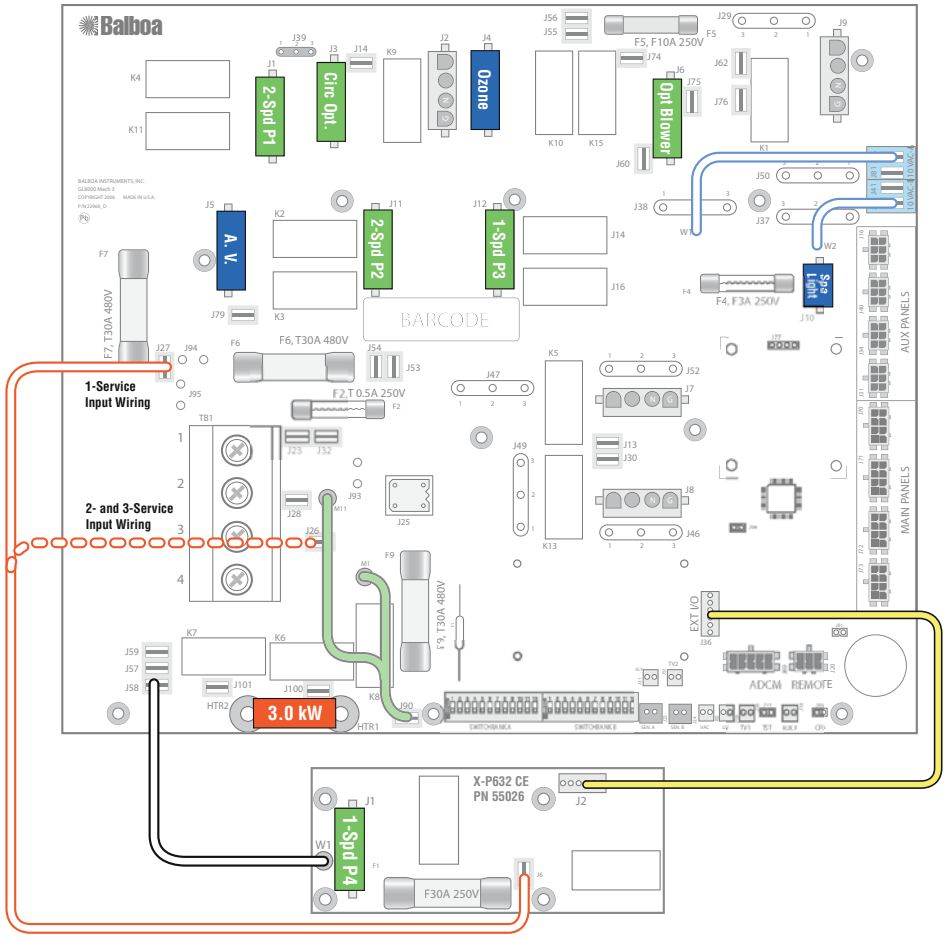
Setup 4

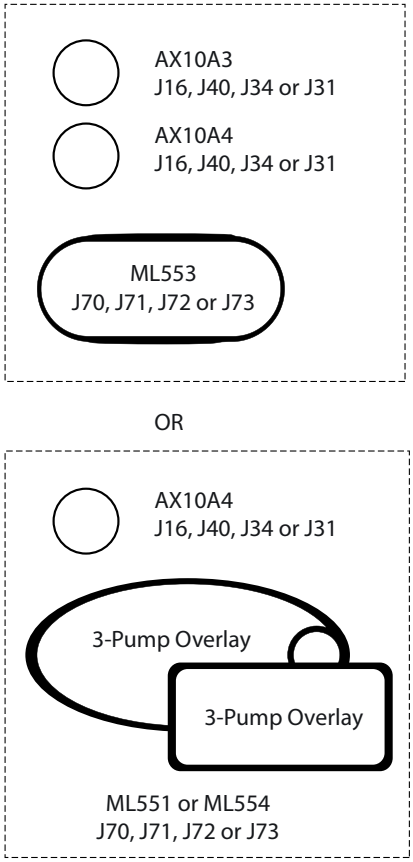
- 230V Pump 1, 2-Speed
- 230V Pump 2, 2-Speed
- 230V Pump 3, 1-Speed
- 230V Pump 4, 1-Speed
- 10V Spa Light
- 230V Ozone
- 230V A\V (Stereo)
- 3.0kW Heater
- ML553 Main Panel or ML551/554

HiPot Testing Note:

Disconnect slip terminal with green wires from J90 prior to performing HiPot test. Failure to disconnect will cause a false failure of the test.

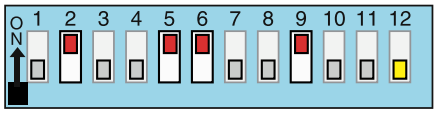
Reconnect terminal to J90 after successful completion of HiPot test.





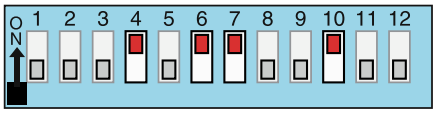
WARNING: Main Power to system should be turned OFF BEFORE adjusting DIP switches.
WARNING: Persistent Memory (A12) must be RESET to allow new DIP switch settings to take effect. (See Persistent Memory page)

Switchbank A



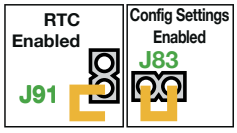
A1, Test Mode OFF
A2, + 1 Pump w/Heat
A3,
A4,
A5, Filter by Duration
A6, Scrunching is ON
A7, See Circ Table
A8, See Circ Table
A9, See Pump 2 Table
A10, No Edit
A11, Special Amp Rule OFF
A12, Memory ON

Switchbank B



SSID #
100
139
37

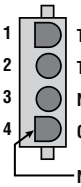
B1, See Pump 2 Table
B2, See Pump 3 Table
B3, See Pump 3 Table
B4, See Pump 3 Table
B5, See Pump 4 Table
B6, See Pump 4 Table
B7, See Pump 4 Table
B8, Do Not Use
B9, Blower ON/OFF
B10, Spa Light ON/OFF
B11, AX = J1, J2, J3, J4
B12, ML550 Standard Config



Wiring Color Key

- Neutral (Common) AC Connections
- Special AC Connections
- Line AC Connections
- 10 Volt Connections
- Relay Control Wires

Board Connector Key



1. Typically Line voltage
2. Typically Line voltage for 2-speed pumps
3. Neutral (Common)
4. Ground

Note flat sides in connector

DIP Switches and Jumper Definitions

WARNING:
- Setting DIP switches incorrectly may cause abnormal system behavior and/or damage to system components.
- Refer to Switchbank illustration on Wiring Configuration page for correct settings for this system.
- Contact Balboa if you require additional configuration pages added to this tech sheet.

DIP Switchbank A Key

A1 ..... Test Mode (normally Off)
A2 ..... In "ON" position, add one high-speed pump (or blower) with Heater
A3 ..... In "ON" position, add two high-speed pumps (or 1 HS Pump and Blower) with Heater
A4 ..... In "ON" position, add four high-speed pumps (or 3 HS Pumps and Blower) with Heater
A10 ..... When switched ON when spa is on, system will enter the Edit Menu for Configuration Settings
Do not start spa with A10 turned on or CFE* error will occur
A11 ..... In "ON" position, enables Special Amperage Rule, see "SA" in Software Configuration section for functionality with your system
..... In "OFF" position, disables Special Amperage Rule
A12 ..... Persistent memory reset (used when spa is powering up) See "Persistent Memory and Powering Up" page

A2, A3, and A4 work in combination to determine the number of high-speed devices and blowers that can run before the heat is disabled. i.e. A2 and A3 in the ON position and A4 in the OFF position will allow the heater to operate with up to 3 high-speed pumps (or two HS Pumps and Blower) running at the same time. Heat is disabled when the fourth high-speed pump or blower is turned on.

Note: A2/A3/A4 all off = No heat with any high-speed pump or blower.

*CFE errors are illegal configurations such as a pump and a blower set to run on the same output. The configuration must be corrected before the spa will operate.

Assignable DIP Switch Key

A5 ..... In "ON" position, Filter by Duration (also requires J91 on 2 pins)
..... In "OFF" position, Filter by Time of Day (also requires J91 on 1 pin)
A6 ..... In "ON" position, Alternate Panel layout
(ML900: scrunching enabled; ML550 and ML700: Jets 3 replaces Blower)
Note: The Light button on an ML900 panel is a Spa Light button.
The Light button on most other panels is an Either Light button.
..... In "OFF" position, Normal Panel layout
A7 and A8..... See Circ Pump Behavior Table
A9 and B1..... See Pump 2 Behavior Table
B2, B3, B4 ..... See Pump 3 Behavior Table (Pump 3 replaces Light on Aux Panels.
B5, B6, B7 ..... See Pump 4 Behavior Table
B8 ..... Do Not Use
B9 ..... In "ON" position, Blower is ON/OFF
..... In "OFF" position, Blower is OFF
B10 ..... In "ON" position, Spa Light is ON/OFF
..... In "OFF" position, Spa Light is Off/Low/Medium/High
B11 ..... In "ON" position, AX is J1, J2, BL, LT
In "OFF" position AX is J1, J2, J3, J4
B12 ..... In "ON" position, ML550 Custom Buttons are Enabled
..... In "OFF" position, ML550 Custom Buttons are Disabled

Now always in 24-hour time (Military/European time)

Jumpers Key

J91 ..... Jumper on 1 Pin only enables Real Time Clock function, for use with time capable panels.
Jumper on Pins 1 and 2 will disable RTC function, for use with non-time capable panels.

DIP Switch / Device Configuration Tables

A7	A8	Circ Pump Behavior
OFF	OFF	No Circ Pump
OFF	ON	24 Hr
ON	OFF	24 Hr w/3°F Shut-Off
ON	ON	Acts like Pump 1 Low (Filter Cycles, Polls)

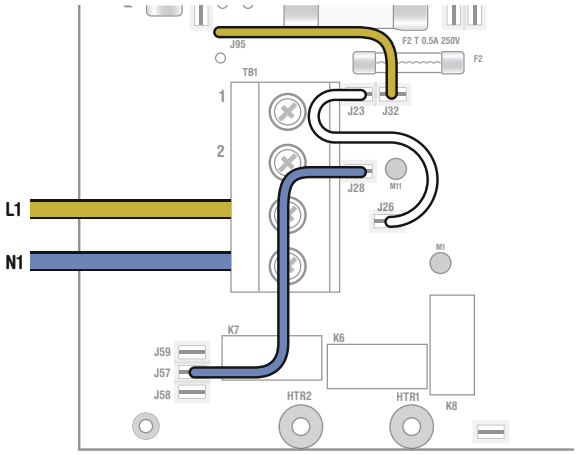
A9	B1	Pump 2 Behavior
OFF	OFF	No Pump 2
OFF	ON	ON/OFF
ON	OFF	2-Speed

B2	B3	B4	Pump 3 Behavior
OFF	OFF	OFF	No Pump 3
OFF	OFF	ON	ON/OFF
OFF	ON	OFF	2-Speed

B5	B6	B7	Pump 4 Behavior
OFF	OFF	OFF	No Pump 4
OFF	OFF	ON	ON/OFF
OFF	ON	OFF	ON/OFF (X-P)
OFF	ON	ON	ON/OFF (X-P6)
ON	OFF	OFF	2-Speed (X-P6)

Electrical Service Configuration Options

For Software Configured System



Single Service (1 x 16 Amp or 1 x 32 Amp)

This option is configured and shipped as the default.

For 1 x 32 Amp Service:

DIP Switch A2, A3, and A4 can be ON

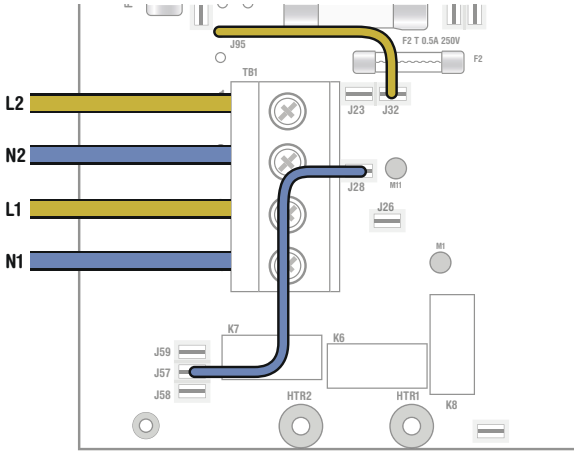
For 1 x 16 Amp Service:

DIP Switch A2, A3, and A4 must be OFF

For 1 x 16 Amp and 1 x 32 Amp Service:

DIP Switch A11 must be ON if using Special Amperage Rule

DIP Switch A11 must be OFF if not using Special Amperage Rule



Dual Service Option (2 x 16 Amp)

Not compatible with 4 pumps. If 3 pumps are used, disable Pump 3 and use Pump4 as the 3rd pump. The third pump must run on the expander board.

NOTE: All the equipment on the main board runs on one service and the heater runs on the other. The expander board runs on the same service as the heater. All equipment besides the heater and expander board,must be no more than 16 amps **combined**.

The heater will turn off when any high speed pump is running.

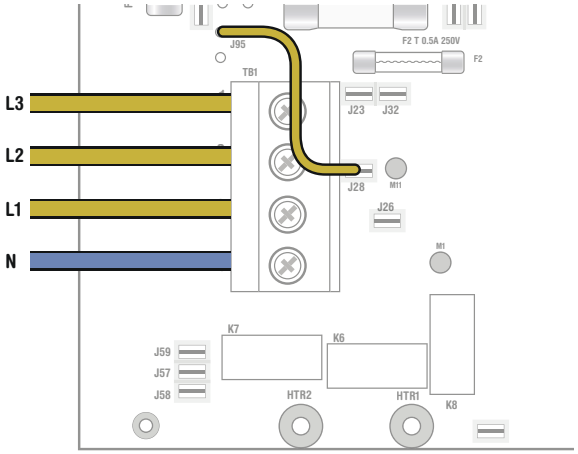
Completely remove the white wire from J26 and J32.

Note: J32 and J23 are electrically identical. The white wire may be attached to either terminal before removal.

DIP Switch A2, A3, and A4 must be OFF unless the expander board is not used.

DIP Switch A11 must be ON if using Special Amperage Rule

DIP Switch A11 must be OFF if not using Special Amperage Rule



3-Phase Service Option

With a 4-pump system, pumps 2 & 3 are on the same 16A line, so they cannot be more than 16A **combined**

If 3 pumps are used, disable Pump 3 and use Pump4 as the 3rd pump. The third pump should run on the expander board

The expander board runs on the same line as the heater. The heater will turn off when any high seed pump is running.

IMPORTANT - Service MUST include a neutral wire,with a line to neutral voltage of 230VAC.

Completely remove the white wire from J26 and J32.

Note: J32 and J23 are electrically identical. The white wire may be attached to either of these terminalsbefore removal.

Completely remove the blue wire from J28 and J57.

Note: J57, J58 and J59 are electrically identical. The blue wire may be attached to any of these terminals before removal.

Move the brown wire from J23 or J32 to J28.

DIP Switch A2, A3, and A4 must be OFF unless the expander board is not used.

DIP Switch A11 must be OFF

Software Configuration Settings

(n) = OEM Setting (Green circle)

Fd	Program Filter Cycles by Duration	n Y (_) **n** = Start and stop times; for time capable panels. **Y** = Duration; for non-time capable panels **_** = 1 DIP Switch
F 1	Pump 1 in Filter (w/Circ Pump)	(n) Y (This feature is used in Circ Mode only.) Allows Pump 1 Low to operate in Filter Cycles to add extra filtration. **n** = Normal; **Y** = Pump 1 with Circ
24	24-Hour Time*	n (Y) _ **n** = 12-hour (am/pm); **Y** = 24-hour (military\European); **_** = 1 DIP Switch *Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up.
tc	Celsius**	n (Y) _ **n** = Fahrenheit; **Y** = Celsius; **_** = 1 DIP Switch **Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up
to	Timeouts	1 (F) 2 3 4 5 6 **1-6** = 10, 20, 30, 40, 50, 60 minutes; **F** = 15 minutes
1t	Pump 1 Low Timeout	d 1 (2) 3 4 _ **d** = Use "Timeouts" value above; **1-4** = number of hours; **_** = 3 DIP Switch
Lt	Light Timeout	d 1 2 3 (4) **d** = Use "Timeouts" value above; **1-4** = number of hours
Sc	Scrunch Panel	n Y (_) **n** = Normal panel layout; **Y** = Alternate panel layout (ML900 scrunching enabled - ML550/700 Jets 3 replaces Blower; **_** = 1 DIP Switch
ct	Circ Type (behavior)	n A 3 P (_) **n** = Non circ or circ pump not plumbed with heater; **A** = 24-hour; **3** = 24-hour with 3ºF shutoff outside filter; **P** = Acts like Pump 1 Low (filter cycles, polls, etc.); **_** = 2 DIP Switch

Software Configuration Settings Continued

Pump Speeds

P 1	Pump 1 Speeds	1 (2) _ **1** = 1 speed; **2** = 2 speed; _ = 1 DIP Switch
P2	Pump 2 Speeds	0 1 2 (_) **0** = Disabled; **1** = On/Off; **2** = 2 speed; _ = 2 DIP Switch
P3	Pump 3 Speeds	0 1 2 (_) **0** = Disabled; **1** = On/Off; **2** = 2 speed; _ = 3 DIP Switch
P4	Pump 4 Speeds	0 1 E H L (_) **0** = Disabled; **1** = On/Off on board; **E** = External X-P CE or X-P231 CE board **H** = On/Off on pin 1 of X-P632 CE board; **L** = 2 speed on X-P632 CE board; _ = 3 DIP Switch
P5	Pump 5 Speeds	(0) 1 E L _ **0** = Disabled; **1** = On/Off on board; **E** = External X-P CE or X-P231 CE board **L** = On/Off on pin 2 of X-P632 CE board; _ = 2 DIP Switch
P6	Pump 6 Speeds	(0) 1 _ **0** = Disabled; **1** = On/Off; _ = 1 DIP Switch
bL	Blower Speeds	0 1 (_) **0** = Disabled; **1** = On/Off; _ = 2 DIP Switch

Lighting Control

Lb	Separate Spa Light Buttons (This feature applies when using Fiber Optic light)	n (Y) _ See Chart Below **n** = No Spa light button, Spa Light output is on with Fiber; **Y** = Separate Spa Light button on ML900 or Aux panel; _ = 1 DIP Switch

Note: The Light button on an ML900 panel is a SpaLight button. The Light button on most other panels is an EitherLight button.

	Lb.n	Lb.Y
Fo.n	No separately-controlled fiber light; spa light enabled on both SpaLight and EitherLight buttons; fiber light (not wheel) comes on with spa light (at any intensity)	
Fo.Y	No separately-controlled fiber light; fiber light enabled on both FiberLight and EitherLight buttons; spa light comes on with fiber light	Spa light and fiber light each separately controlled; fiber light enabled on both FiberLight and EitherLight buttons; spa light enabled on SpaLight buttons only

L 1	Spa Light On/Off	n Y (_) **n** = Dimmable (H, M, L) Light; **Y** = On/Off Light; _ = 1 DIP Switch
Fo	Fiber Optics / Light 2	(n) Y o _ **n** = Disabled; **Y** = Light and Wheel Enabled; **o** = On/Off only. Light 2 enabled on J7 _ = 2 DIP Switch

Software Configuration Settings Continued

	15	Mister 1	(n) Y _ **n** = Disabled; **Y** = Enabled on J9; **_** = 1 DIP Switch
	12	Mister 2	(n) Y _ **n** = Mister Disabled; **Y** = Mister Enabled on pin 1 of X-P632 CE board; **_** = 1 DIP Switch
	13	Mister 3	(n) Y _ **n** = Mister Disabled; **Y** = Mister Enabled on pin 2 of X-P632 CE board; **_** = 1 DIP Switch
Options	oE	Option 1*	(n) Y P _ **n** = Disabled; **Y/P** = Enabled on J9; **_** = 2 DIP Switch
	o2	Option 2*	(n) Y P _ **n** = Disabled; **Y/P** = Enabled on "alarm" relay, requires expander board, uses J36 output; **_** = 2 DIP Switch
	03	Option 3*	(n) Y P _ **n** = Disabled; **Y/P** = Enabled on pin 1 of X-P632 CE board; **_** = 2 DIP Switch
	04	Option 4*	(n) Y P _ **n** = Disabled; **Y/P** = Enabled on pin 2 of X-P632 CE board; **_** = 2 DIP Switch
	05	Option 5*	(n) Y P _ **n** = Disabled; **Y/P** = Enabled on J7; **_** = 2 DIP Switch *Note: Options 1-5: Y = On/Off w/no timeout (toggle) mode; P = Pulse (momentary) mode
	cc	Cleanup Cycles **	(0) 1 2 3 4 **0** = Disabled; **1-4** = Number of hours **Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up.
	cU	Cleanup Cycles as User Preference	(n) Y **n** = Only in Configuration Settings; **Y** = Over-rideable by User via User Preferences
Ozone	o3	Ozone Operation	(A) F _ **A**= Operates with Heater Pump (Pump 1 Low or Circ Pump); **F** = Operates in Filter and Cleanup Cycles only; **_** = 1 DIP Switch
	o5	Ozone Suppression	(n) Y _ **n** = No Suppress; **Y** = 1-hour suppress on button press; **_** = 1 DIP Switch
	oI	Ozone Icon	n Y (U) **n** = Disabled; **Y** = Enabled ; **U** = Controlled by UV input
	dI	Divide*	(n) 2 3 _ **n** = No Divide; **2** = Pumps 2 and above are swim pumps; **3** = Pumps 3 and above are swim pumps; **_** = 2 DIP Switches *Divides pumps between Spa Pumps and Swim Pumps. A button press turning on any Swim Pump, at any speed, shuts off the heater and all Spa Pumps (including circ pump, if used).

Software Configuration Settings Continued

SP	Stir Pump Group*	(A) 2 3 4 _ **A** = All Pumps; **2** = Pumps 2 and up; **3** = Pumps 3 and up; **4** = Pumps 4 and up; **_** = 2 DIP Switches *Determines what group of pumps the Stir Button turns on (at high-speed).
Sd	Stir Duration**	1 F 2 3 4 5 6 (E) **1** = 10 minutes; **F** = 15 minutes; **2** = 20 minutes; **3** = 30 minutes; **4** = 40 minutes; **5** = 50 minutes; **6** = 60 minutes; **E** = 5 minutes; **Determines the timeout for the Stir Button.

Auxiliary Buttons

A1	Aux Button 1 (Bank A)	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
A2	Aux Button 2 (Bank A)	1 (2) 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
A3	Aux Button 3 (Bank A)	1 2 (3) 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
A4	Aux Button 4 (Bank A)	1 2 3 (4) 5 6 b g F E o t d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b** = Blower; **g** = Spa Light; **F** = Fiber-Optic / Light 2; **E** = EitherLight;
o = Option 1; **t** = Mister 1; **d** = Mister 2/Cool; **P** = Mister 3/Elec Heat; **n** = Ext Heat; **A** = Sound Mode Select;
U = Button Disabled; **r** = Air Valve; **O** = Option 2; **H** = Option 3; **9** = Invert; **L** = Option 4; **8** = Stir; **7** = Option 5

b1	Aux Button 1 (Bank B)	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
b2	Aux Button 2 (Bank B)	1 (2) 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
b3	Aux Button 3 (Bank B)	1 2 3 4 5 6 (b) g F E o t d P n A U r O H 9 L 8 7
b4	Aux Button 4 (Bank B)	1 2 3 4 5 6 b g F (E) o t d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b** = Blower; **g** = Spa Light; **F** = Fiber-Optic / Light 2; **E** = EitherLight;
o = Option 1; **t** = Mister 1; **d** = Mister 2/Cool; **P** = Mister 3/Elec Heat; **n** = Ext Heat; **A** = Sound Mode Select;
U = Button Disabled; **r** = Air Valve; **O** = Option 2; **H** = Option 3; **9** = Invert; **L** = Option 4; **8** = Stir; **7** = Option 5

AU	Aux Button Bank Select	A b (_) **A** = Bank A; **b** = Bank B; **_** = 1 DIP Switch

Software Configuration Settings Continued

Reminders

Sr	Suppress all Reminders	n (Y) _ **n** = Display Reminders; **Y** = Suppress all Reminders; **_** = 1 DIP Switch
rP	Check pH Reminder Period	0 (1) 2 3 4 5 6 7 8 9 t
rS	Check Sanitizer Reminder Period	0 (1) 2 3 4 5 6 7 8 9 t
rF	Clean Filter Reminder Period	0 1 2 (3) 4 5 6 7 8 9 t
r9	Test GFCI Reminder Period	0 1 2 (3) 4 5 6 7 8 9 t
rd	Drain Water Reminder Period	0 1 2 3 4 5 (6) 7 8 9 t
rA	Change Mineral Cartridge	(0) 1 2 3 4 5 6 7 8 9 t
rC	Clean Cover Reminder Period	0 1 2 3 4 5 6 7 (8) 9 t
ro	Treat Wood Reminder Period	0 1 2 3 4 5 6 7 (8) 9 t
rt	Change Filter Reminder Period	0 1 2 3 4 5 6 7 8 (9) t

0 = Off; **1** = 7 days; **2** = 14 days; **3** = 30 days; **4** = 45 days; **5** = 60 days; **6** = 90 days;
7 = 120 days; **8** = 180 days; **9** = 365 days; **t** = 21 days

Temperature

LS	Lowest Set Temperature*	(8) 7 6 **8** = 80˚F/26.0˚C; **7** = 70˚F/21.0˚C; **6** = 60˚F/15.5˚C *Setting LS at 7 and Fr at 5 will cause a CFE error. Setting LS at 6 and Fr at 4, 5, or 9 will cause a CFE error.
St	Default Set Temperature**	5 6 7 8 9 (0) 1 2 3 4 E F n **5** = 95˚F/35.0˚C; **6** = 96˚F/35.5˚C; **7** = 97˚F/36.0˚C; **8** = 98˚F/36.5˚C; **9** = 99˚F/37.0˚C; **0** = 100˚F/38.0˚C; **1** = 101˚F/38.5˚C; **2** = 102˚F/39.0˚C; **3** = 103˚F/39.5˚C; **4** = 104˚F/40.0˚C; **E** = 80˚F/26.5˚C; **F** = 85˚F/29.5˚C **n** = 90˚F/32.0˚C **Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up.
UL	Uppermost Set Temperature	5 6 7 8 9 0 1 2 3 (4) E F n **5** = 95˚F/35.0˚C; **6** = 96˚F/35.5˚C; **7** = 97˚F/36.0˚C; **8** = 98˚F/36.5˚C; **9** = 99˚F/37.0˚C; **0** = 100˚F/38.0˚C; **1** = 101˚F/38.5˚C; **2** = 102˚F/39.0˚C; **3** = 103˚F/39.5˚C; **4** = 104˚F/40.0˚C; **E** = 80˚F/26.5˚C; **F** = 85˚F/29.5˚C **n** = 90˚F/32.0˚C
Fr	Freeze Temperature Threshold	3 (4) 9 5 **3** = 39˚F/3.9˚C; **4** = 44˚F/6.7˚C; **9** = 49˚F/9.4˚C; **5** = 54˚F/12.2˚C;
tL	Set Temperature Lock	(t) S **t** = Temp Lock Only; **S** = Temp + Settings Lock

Software Configuration Settings Continued

Filter Cycles

LC	Light Cycle Programming	(n) Y **n =** Disabled; **Y =** Enabled
1r	Filter 1 Start Hour (Set 1)***	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r
1d	Filter 1 Duration (Set 1)***	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r
2r	Filter 2 Start Hour (Set 1)***	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r
2d	Filter 2 Duration (Set 1)***	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r

- = Standard Defaults; **0** = 0 (12 am, 24); **1-9** = 1-9; **A** = 10; **b** = 11; **C** = 12; **d** = 13 (1 pm); **E** = 14 (2 pm); **F** = 15 (3 pm); **g** = 16 (4 pm); **H** = 17 (5 pm); **J** = 18 (6 pm); **L** = 19 (7 pm); **n** = 20 (8 pm); **o** = 21 (9 pm); **P** = 22 (10 pm); **r** = 23 (11 pm)

These settings allow customization of the filter defaults. If any of these four settings is **"-"**, the standard filter defaults are used.

1d and **2d** cannot both be set to **0**.

When **Fd.n** is selected, **1d** and **2d** are Filter 1 and Filter 2 Duration specifically.

When **Fd.y** is selected:
If **1d** is set to **0**, **2d** is the duration; otherwise **1d** is the duration.
If **1d** is set to **0**, only the Night cycle runs.
If **2d** is set to **0**, only the Day cycle runs.
If neither **1d** nor **2d** is set to **0**, both the Day and Night cycles run.

***Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up.

3r	Filter 1 Start Hour (Set 2) *	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r
3d	Filter 1 Duration (Set 2) *	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r
4r	Filter 2 Start Hour (Set 2) *	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r
4d	Filter 2 Duration (Set 2) *	(-) 0 1 2 3 4 5 6 7 8 9 A b C d E F g H J L n o P r

- = Standard Defaults; **0** = 0 (12 am, 24); **1-9** = 1-9; **A** = 10; **b** = 11; **C** = 12; **d** = 13 (1 pm); **E** = 14 (2 pm); **F** = 15 (3 pm); **g** = 16 (4 pm); **H** = 17 (5 pm); **J** = 18 (6 pm); **L** = 19 (7 pm); **n** = 20 (8 pm); **o** = 21 (9 pm); **P** = 22 (10 pm); **r** = 23 (11 pm)

These settings allow customization of the filter defaults. If any of these four settings is **"-"**, the standard filter defaults are used.

3d and **4d** cannot both be set to **0**.

When **Fd.n** is selected, **3d** and **4d** are Filter 1 and Filter 2 Duration specifically.

When **Fd.y** is selected:
If **3d** is set to **0**, **4d** is the duration; otherwise **3d** is the duration.
If **3d** is set to **0**, only the Night cycle runs.
If **4d** is set to **0**, only the Day cycle runs.
If neither **3d** nor **4d** is set to **0**, both the Day and Night cycles run.

* Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up.

FS	Filter Default Start Time Set**	(1) 2 _ **1** = Set 1; **2** = Set 2; **_** = 1 DIP Switch

**Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up.

FP	Filter Default Duration Set***	(1) 2 _ **1** = Set 1; **2** = Set 2; **_** = 1 DIP Switch

***Sets default for user preferences - only applies when persistent memory is reset (A12 On) during power-up.

Software Configuration Settings Continued

Purge Duration

PP	Pump Purge Duration	3 (1) 2 5 t **3** = 30 seconds; **1 - 5** = 1 - 5 minutes; **t** = 10 minutes
bP	Blower Purge Duration	5 1 2 (3) 4 6 t F **5** = 5 seconds; **1** = 10 seconds; **2** = 20 seconds; **3** = 30 seconds; **4** = 45 seconds; **6** = 60 seconds (1 minute); **t** = 2 minutes; **F** = 5 minutes
tP	Mister Purge Duration	(5) 1 2 3 4 6 t F **5** = 5 seconds; **1** = 10 seconds; **2** = 20 seconds; **3** = 30 seconds; **4** = 45 seconds; **6** = 60 seconds (1 minute); **t** = 2 minutes; **F** = 5 minutes
Ar	Air Valve	(n) Y **n** = Disabled; **Y** = Enabled on "alarm" relay, requires expander board, uses J36 output.

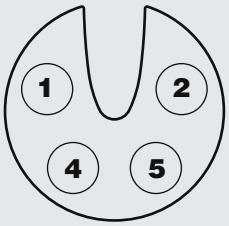
Software Configuration Settings Continued

Remote Buttons Set A

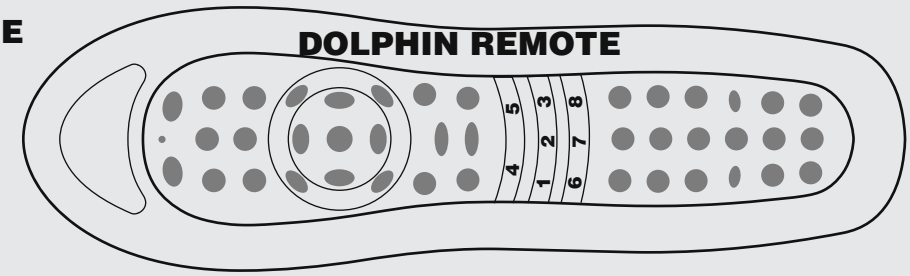
n1	Remote Button 1 (Set A)	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
n2	Remote Button 2 (Set A)	1 (2) 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
n3	Remote Button 3 (Set A)	1 2 (3) 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
n4	Remote Button 4 (Set A)	1 2 3 (4) 5 6 b g F E o t d P n A U r O H 9 L 8 7
n5	Remote Button 5 (Set A)	1 2 3 4 5 6 b (g) F E o t d P n A U r O H 9 L 8 7
n6	Remote Button 6 (Set A)	1 2 3 4 5 6 b g (F) E o t d P n A U r O H 9 L 8 7
n7	Remote Button 7 (Set A)	1 2 3 4 5 6 b g F E (o) t d P n A U r O H 9 L 8 7
n8	Remote Button 8 (Set A)	1 2 3 4 5 6 b g F E o (t) d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b** = Blower; **g** = Spa Light; **F** = Fiber-Optic / Light 2; **E** = EitherLight;
o = Option 1; **t** = Mister 1; **d** = Mister 2/Cool; **P** = Mister 3/Elec Heat; **n** = Ext Heat; **A** = Sound Mode Select;
U = Button Disabled; **r** = Air Valve; **O** = Option 2; **H** = Option 3; **9** = Invert; **L** = Option 4; **8** = Stir; **7** = Option 5

ROUND REMOTE



DOLPHIN REMOTE

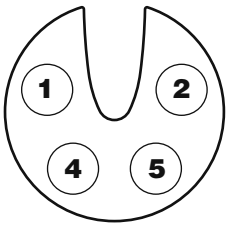


Remote Buttons Set B

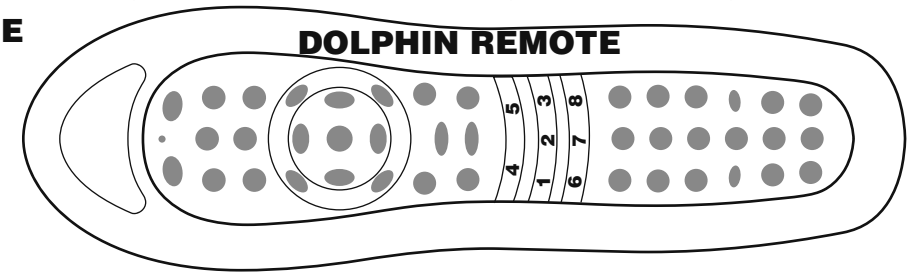
H1	Remote Button 1 (Set B)	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
H2	Remote Button 2 (Set B)	1 (2) 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
H3	Remote Button 3 (Set B)	1 2 (3) 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
H4	Remote Button 4 (Set B)	1 2 3 4 5 6 (b) g F E o t d P n A U r O H 9 L 8 7
H5	Remote Button 5 (Set B)	1 2 3 4 5 6 b (g) F E o t d P n A U r O H 9 L 8 7
H6	Remote Button 6 (Set B)	1 2 3 4 5 6 b g (F) E o t d P n A U r O H 9 L 8 7
H7	Remote Button 7 (Set B)	1 2 3 4 5 6 b g F E (o) t d P n A U r O H 9 L 8 7
H8	Remote Button 8 (Set B)	1 2 3 4 5 6 b g F E o (t) d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b** = Blower; **g** = Spa Light; **F** = Fiber-Optic / Light 2; **E** = EitherLight;
o = Option 1; **t** = Mister 1; **d** = Mister 2/Cool; **P** = Mister 3/Elec Heat; **n** = Ext Heat; **A** = Sound Mode Select;
U = Button Disabled; **r** = Air Valve; **O** = Option 2; **H** = Option 3; **9** = Invert; **L** = Option 4; **8** = Stir; **7** = Option 5

ROUND REMOTE



DOLPHIN REMOTE



d0	Remote Button Set Selection	(A) b _

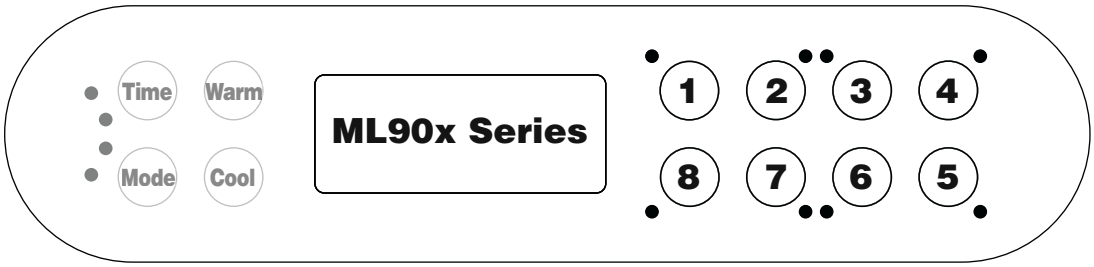
A = Bank A; **b** = Bank B; **_** = 1 DIP Switch

Software Configuration Settings Continued

ML90x Series Buttons

81	ML90x Custom Button 1	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
82	ML90x Custom Button 2	1 (2) 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
83	ML90x Custom Button 3	1 2 (3) 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
84	ML90x Custom Button 4	1 2 3 (4) 5 6 b g F E o t d P n A U r O H 9 L 8 7
85	ML90x Custom Button 5	1 2 3 4 5 6 (b) g F E o t d P n A U r O H 9 L 8 7
86	ML90x Custom Button 6	1 2 3 4 5 6 b (g) F E o t d P n A U r O H 9 L 8 7
87	ML90x Custom Button 7	1 2 3 4 5 6 b g F E o t d P n A (U) r O H 9 L 8 7
88	ML90x Custom Button 8	1 2 3 4 5 6 b g F E o t d P n A U r O H (9) L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b =** Blower; **g =** Spa Light; **F =** Fiber-Optic / Light 2; **E =** EitherLight;
o = Option 1; **t =** Mister 1; **d =** Mister 2/Cool; **P =** Mister 3/Elec Heat; **n =** Ext Heat; **A =** Sound Mode Select;
U = Button Disabled; **r =** Air Valve; **O =** Option 2; **H =** Option 3; **9 =** Invert; **L =** Option 4; **8 =** Stir; **7 =** Option 5



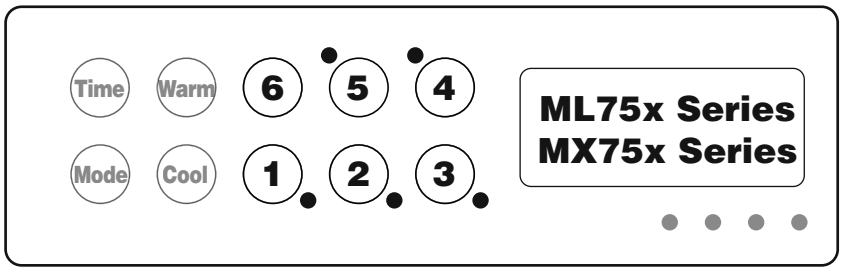
8C	ML90x Custom Buttons Enable	n (Y) _

n = Disabled; **Y =** Enabled; **_** = 1 DIP Switch

ML75x/MX75x Series Buttons

61	ML75x/MX75x Custom Button 1	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
62	ML75x/MX75x Custom Button 2	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
63	ML75x/MX75x Custom Button 3	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
64	ML75x/MX75x Custom Button 4	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
65	ML75x/MX75x Custom Button 5	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
66	ML75x/MX75x Custom Button 6	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b =** Blower; **g =** Spa Light; **F =** Fiber-Optic / Light 2; **E =** EitherLight;
o = Option 1; **t =** Mister 1; **d =** Mister 2/Cool; **P =** Mister 3/Elec Heat; **n =** Ext Heat; **A =** Sound Mode Select;
U = Button Disabled; **r =** Air Valve; **O =** Option 2; **H =** Option 3; **9 =** Invert; **L =** Option 4; **8 =** Stir; **7 =** Option 5



6C	ML750/MX750 Custom Buttons Enable	(n) Y _

n = Disabled; **Y =** Enabled; **_** = 1 DIP Switch

Software Configuration Settings Continued

ML70x Series Buttons

41	ML70x Custom Button 1	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
42	ML70x Custom Button 2	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
43	ML70x Custom Button 3	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
44	ML70x Custom Button 4	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b** = Blower; **g** = Spa Light; **F** = Fiber-Optic / Light 2; **E** = EitherLight; **o** = Option 1; **t** = Mister 1; **d** = Mister 2/Cool; **P** = Mister 3/Elec Heat; **n** = Ext Heat; **A** = Sound Mode Select; **U** = Button Disabled; **r** = Air Valve; **O** = Option 2; **H** = Option 3; **9** = Invert; **L** = Option 4; **8** = Stir; **7** = Option 5

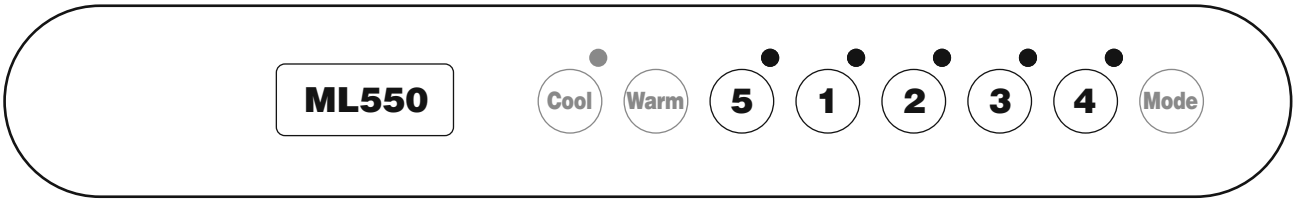
4C	ML70x Custom Buttons Enable	(n) Y _

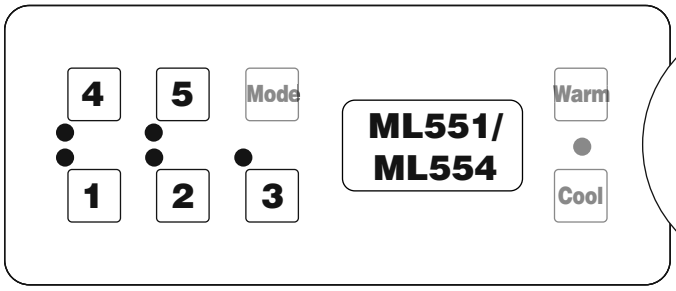
n = Disabled; **Y** = Enabled; **_** = 1 DIP Switch

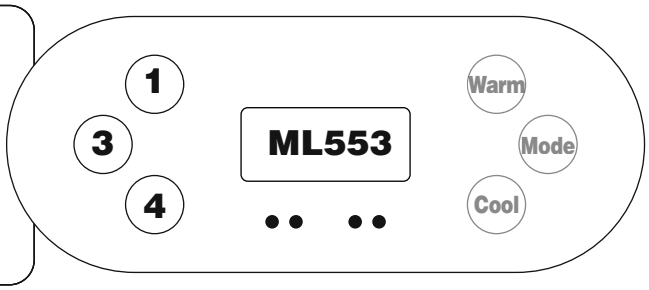
ML55x Series Buttons

51	ML55x Custom Button 1	1 2 (3) 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
52	ML55x Custom Button 2	1 2 3 (4) 5 6 b g F E o t d P n A U r O H 9 L 8 7
53	ML55x Custom Button 3	1 2 3 4 5 6 b (g) F E o t d P n A U r O H 9 L 8 7
54	ML55x Custom Button 4	(1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7
55	ML55x Custom Button 5	1 (2) 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b** = Blower; **g** = Spa Light; **F** = Fiber-Optic / Light 2; **E** = EitherLight; **o** = Option 1; **t** = Mister 1; **d** = Mister 2/Cool; **P** = Mister 3/Elec Heat; **n** = Ext Heat; **A** = Sound Mode Select; **U** = Button Disabled; **r** = Air Valve; **O** = Option 2; **H** = Option 3; **9** = Invert; **L** = Option 4; **8** = Stir; **7** = Option 5







5C	ML55x Custom Buttons Enable	n Y (_)

n = Disabled; **Y** = Enabled; **_** = 1 DIP Switch

Software Configuration Settings Continued

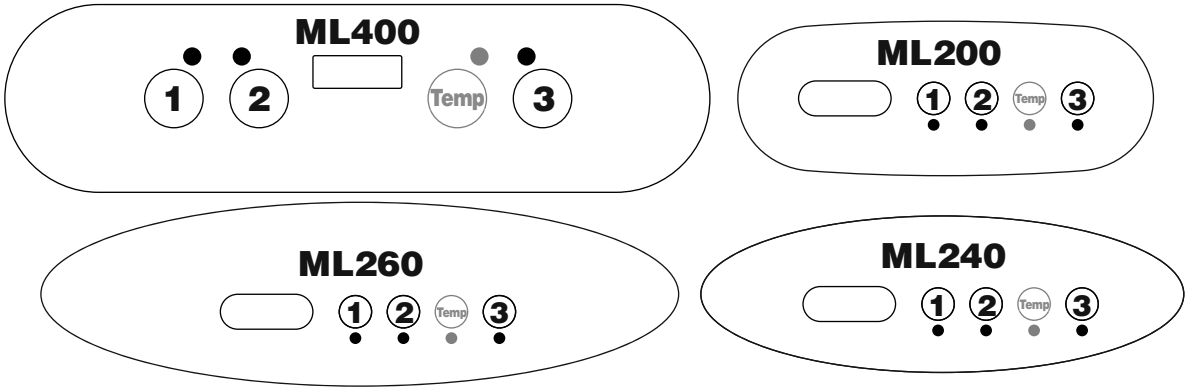
ML40x/ML2xx Series Buttons

31 ML40x/ML2xx Custom Button 1 (1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7

32 ML40x/ML2xx Custom Button 2 (1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7

33 ML40x/ML2xx Custom Button 3 (1) 2 3 4 5 6 b g F E o t d P n A U r O H 9 L 8 7

1-6 = Assigns Pump Number (Pump 1, Pump 2, etc); **b** = Blower; **g** = Spa Light; **F** = Fiber-Optic / Light 2; **E** = EitherLight; **o** = Option 1; **t** = Mister 1; **d** = Mister 2/Cool; **P** = Mister 3/Elec Heat; **n** = Ext Heat; **A** = Sound Mode Select; **U** = Button Disabled (DO NOT USE); **r** = Air Valve; **O** = Option 2; **H** = Option 3; **9** = Invert; **L** = Option 4; **8** = Stir; **7** = Option 5



3C ML40x/ML2xx Custom Buttons Enable (n) Y _

n = Disabled; **Y** = Enabled; **_** = 1 DIP Switch

5A Special Amperage Rule* 1 2 (3) 4 5 6

1 = Blower off when 2nd high-speed pump on; **2** = Max 1 high-speed pump **3** = Max 2 high-speed pumps; **4** = Max 2 high-speed pumps + Blower off when 2nd high-speed pump on; **5** = Max 3 high-speed pumps; **6** = Max 4 high-speed pumps

*Note: DIP A11 must be ON to use Special Amperage Rule.

HC Heat Cool Feature (n) Y _

n = Disabled; **Y** = Enabled; **_** = 1 DIP Switch

dr DR Mode (n) Y

n = Disabled; **Y** = Enabled

dE Demo Mode (n) Y

n = Disabled; **Y** = Enabled

9c Graphic Clock (n) Y

n = Disabled; **Y** = Enabled (Panel must be able to support this feature)

SO Sound Mode Select Enable** (n) Y _ (Requires correct version of sound hardware)

n = No; **Y** = User Preference; **_** = 1 DIP Switch

**Enables panel/aux/remote button access, if properly configured and User Preference access.

Example: To select Sound Modes (see "So" below) by pressing Aux Button 1, configure setting "A1" to code assignment "A"

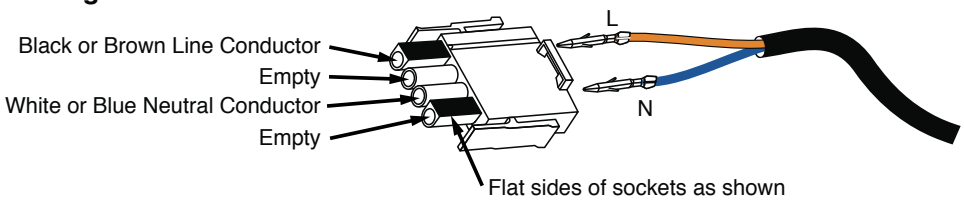
So Sound Mode Select (A) b c n (Values dependent on sound hardware used)

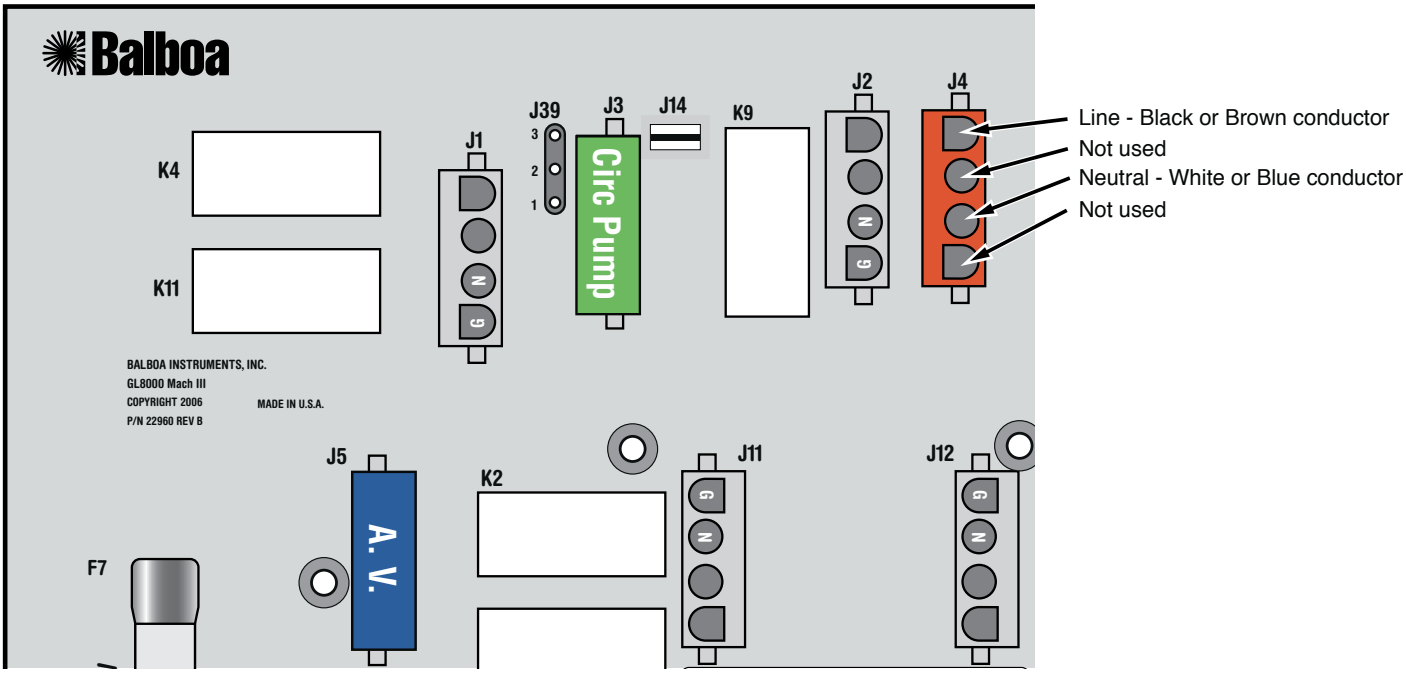
A = Sound choice 1; **b** = Sound choice 2; **c** = Sound choice 3; **n** = No sounds

Ozone Connections

Note: A special tool is required to remove the pins from the connector body once they are snapped in place. Check with your Balboa Account Manager for information on purchasing a pin-removal tool.

Balboa Ozone connector configuration for 230VAC 50Hz:



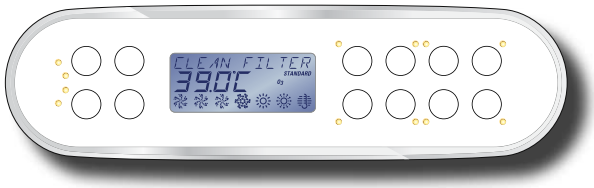


Panel Configurations

TIME CAPABLE

Note: RTC jumper (J91) on Main PCBA must be OFF (1 pin only)

ML900
PN 54589-01 with Overlay PN 11806
• Connects to Main Panel terminal J70, J71, J72, or J73



Unused Blower (If Enabled)

ML700
PN 55693 with Overlay PN 12016
• Connects to Main Panel terminal J70, J71, J72, or J73

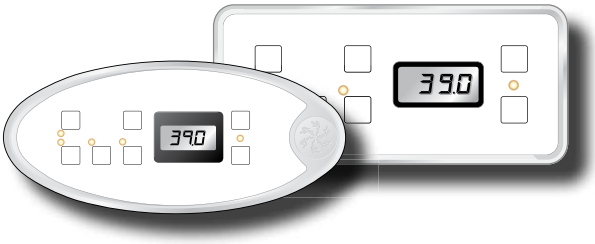
If blower is enabled, add AX10A3 and turn switch B11 to ON.

Auxiliary
PN 55533 with Overlay PN 40107_B

Panel Configurations

NON-TIME CAPABLE

Note: Connects to Main Panel terminal J70, J71, J72, or J73
Note: RTC Jumper (J91) on Main PCBA must be ON (both pins jumpered), unless a Time Capable panel is also used.



ML554 or ML551 - 4 Pump
PN TBD with 4-Pump Overlay PN TBD

ML554 or ML551 - 3 Pump
PN 55304-01 with 3-Pump Overlay PN 11899

ML553
PN 54681-01 with Overlay PN 11877

If Blower is enabled, add AX10A3 and turn switch B11 to ON.

Auxiliary
PN 55533 with Overlay PN 40107_B

Panel Configurations

AUXILIARY

Note: Connects to Aux Panel terminal J31, J34, J40 or J13

AX10 (Up to four can be used)
AX10A1 – Jets 1 – PN 52683 with Overlay PN 40105
AX10A2 – Jets 2 – PN 52764 with Overlay PN 40106
AX10A3 – Jets 3 – PN 55533 with Overlay PN 11907
AX10A4 – Jets 4 – PN 55532 with Overlay PN 11908

When B11 is OFF
Aux are J1, J2, J3, J4

AX40
AX40 – Jets 1, Jets 2, Jets 3, Jets 4 – PN 55487 with Overlay PN 11823

When B11 is ON
Aux are J1, J2, BL, LT