GL8000 Hot Sheet w/ 3 Phase Power

System PN 53615 (Mach 2)
Balboa Instruments

System Model # GL8-GL8000-RCA-3.0K
With 3 Phase Power

Base PCBA PN
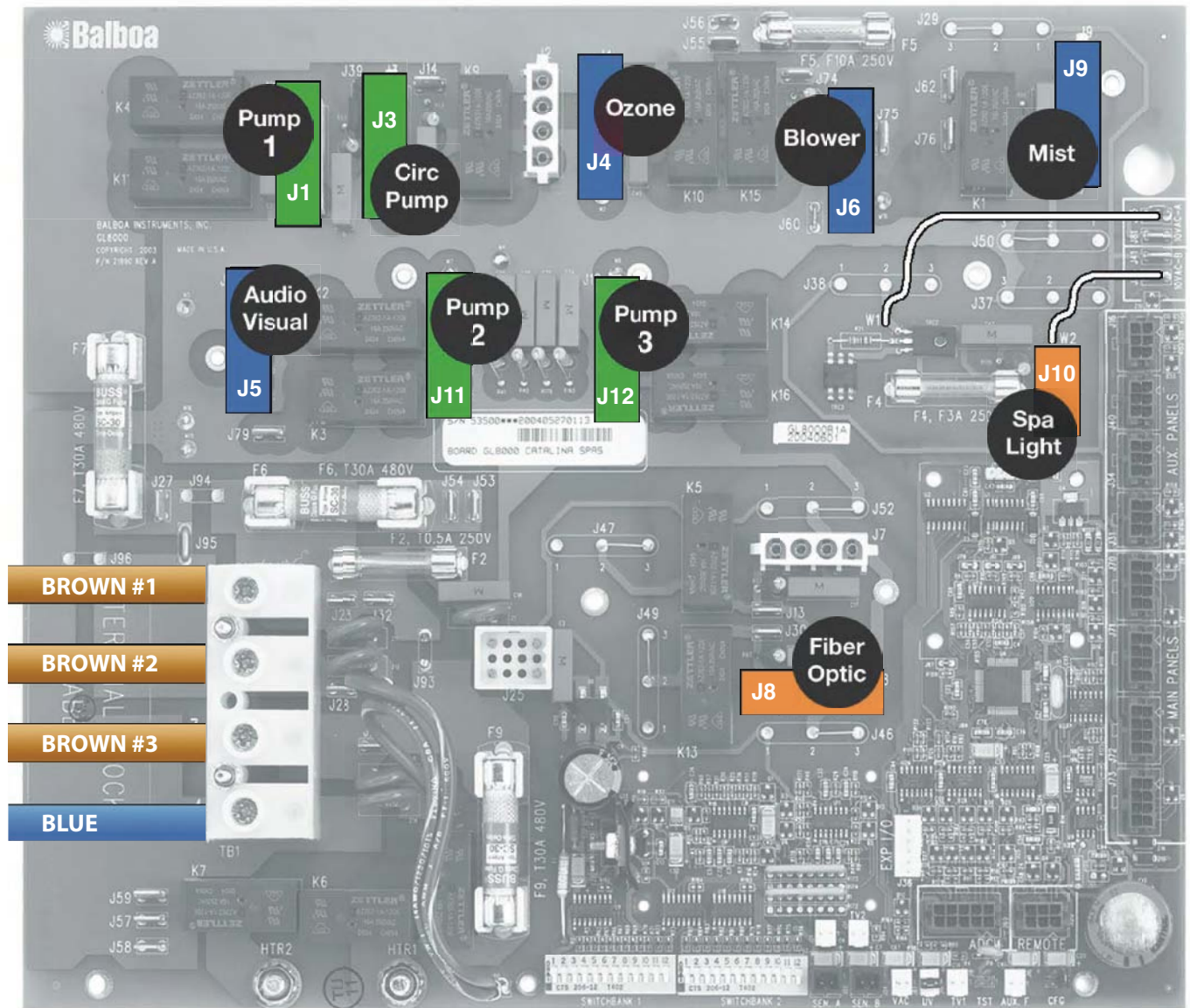GL8000 – 53616

Base Panels
ML 700 – PN 52649
ML 900 – PN 52654

The ML 700 Panel may require Aux
panels for adequate functionality.

Balboa Instruments *Incorporated*
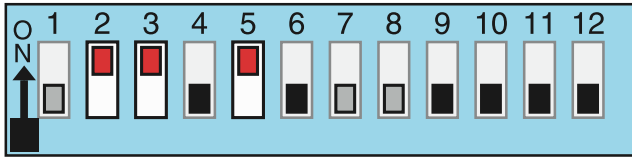
53615-97.PDF 01/26/2005

Circuit Board Configuration

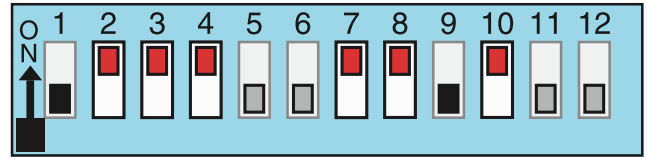Three Service Connection Shown Above (3 Lines + 1 Neutral)

DIP Switches

Switchbank A

A1, Test Mode OFF
A2/A3, 3 H.S. Pumps + Blower w/Heater
A4, 12 Hour Time
A5, Degrees C
A6, Short Timeouts

A7, Cleanup Cycle OFF
A8, 1Hr O$_3$ Disable OFF
A9/A10, No Circ Pump
A11, Ozone w/P1 low
**A12, Memory ON**

Switchbank B

B1, Pump 2 2-Speed
B2, N/A
B3, Blower Enabled
B4, F/O Light ON
B5, Option Disabled
B6, Scrunching OFF

B7, Spa Light On/Off
B8, Spa Light Button
B9, Pump 3 2-speed
B10, Pump 3 Enabled
B11, Mister Disabled
B12, Mist Aux Pnl OFF

Ozone Connection

Ozone connector configuration for 240VAC 50Hz:

Black or Brown Line Conductor
Empty
White or Blue Neutral Conductor
Empty

L

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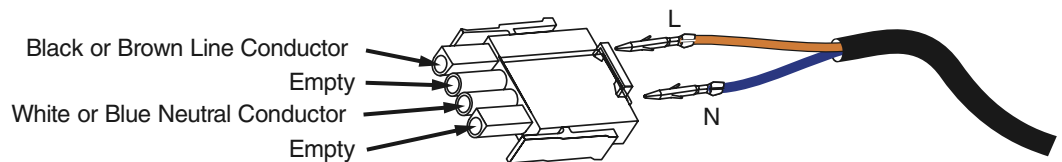
Note: A special tool is required to remove the pins from the connector body once they are snapped in place. Check with your Balboa Account Manager for information on purchasing a pin-removal tool.

DIP Switch Definitions

DIP Switch Key

A 1 . . . . Test Mode (normally Off)
A2 and A3 . . . . See **Figure 1** to control amp draw requirements
A 4 . . . . In "ON" position, displays time in 24 hours (military time)
. . . . In "OFF" position, displays 12 hour time
A 5 . . . . In "ON" position, displays temperature in Celsius
. . . . In "OFF" position, displays temperature in Fahrenheit
A 6 . . . . In "ON" position, Equipment timeout 30 min
(4 hrs for Pump 1-Low)
. . . . In "OFF" position, Equipment timeout 15 min (2 hrs for
Pump 1-Low)
A 7 . . . . In "ON" position, Cleanup Cycle – 30 min after spa
use/timeout, P1-Low & Ozone run for 1 hour.
. . . . In "OFF" position, NO Cleanup Cycle
A 8 . . . . In "ON" position, Ozone suppressed for 1 hour after
pump or blower button press.
. . . . In "OFF" position, NO Ozone suppression
A9 and A10 . . . . See **Figure 2** for Circ Pump Behavior settings
A 11 . . . . In "ON" position (non-circ mode operation)
Pump 1 is two-speed, Ozone is ON in Filter & Cleanup Cycles only
(in any circ mode) Pump 1 is one-speed, Ozone is ON with circ pump
. . . . In "OFF" position (non-circ mode operation) Pump 1 is two-speed,
Ozone is ON with Pump 1-Low
(in any circ mode) Pump 1 is two-speed, Ozone is ON with circ pump
A 12 . . . . Persistent Memory Reset (used when the spa is powering up)

A2	A3	# of Hi-Speed Pumps/Blower with Heater
OFF	OFF	0
ON	OFF	1
OFF	ON	2
ON	ON	Up to 4

Figure 1

A9	A10	Circ Pump Behavior
OFF	OFF	No Circ Pump
ON	OFF	24 Hr
OFF	ON	24 Hr w/3° Shut-Off
ON	ON	Acts like P1 low (Filter Cycles, Polls)

Figure 2

B 1 . . . . In "ON" position, single-speed
Pump 2
. . . . In "OFF" position, two-speed
Pump 2
B 2 . . . . N/A
B 3 . . . . In "ON" position, Blower enabled
. . . . In "OFF" position, Blower disabled
B 4 . . . . See **Figure 3** for Fiber Optic and
Color wheel control
B 5 . . . . In "ON" position, Option enabled - B11 must be OFF
. . . . In "OFF" position, Option disabled
B 6 . . . . In "ON" position, Alternate Panel layout
(ML900 scrunching enabled ML550 / 700 Jets 3 replaces Blower)
. . . . In "OFF" position, Normal Panel layout
B 7 . . . . In "ON" position, Spa Light operation is On/Off
. . . . In "OFF" position, Spa Light operation is Dimmable
B 8 . . . . See **Figure 3** for Spa Light Enable
B 9 . . . . In "ON" position, single-speed Pump 3
. . . . In "OFF" position, two-speed Pump 3
B 10 . . . . In "ON" position, Pump 3 enabled (Jets 3 replaces Light button on Aux panel)
. . . . In "OFF" position, Pump 3 disabled
B 11 . . . . In "ON" position, Mister enabled – B5 must be OFF
. . . . In "OFF" position, Mister disabled
B 12 . . . . In "ON" position, Mister or Option replaces Blower button on Aux panels – B5 or B11 is ON
. . . . In "OFF" position, no button replacement on aux panels

|	B8 OFF	B8 ON
B4 OFF	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)	
B4 ON	No separately-controlled spa 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

Figure 3

Panel Configuration
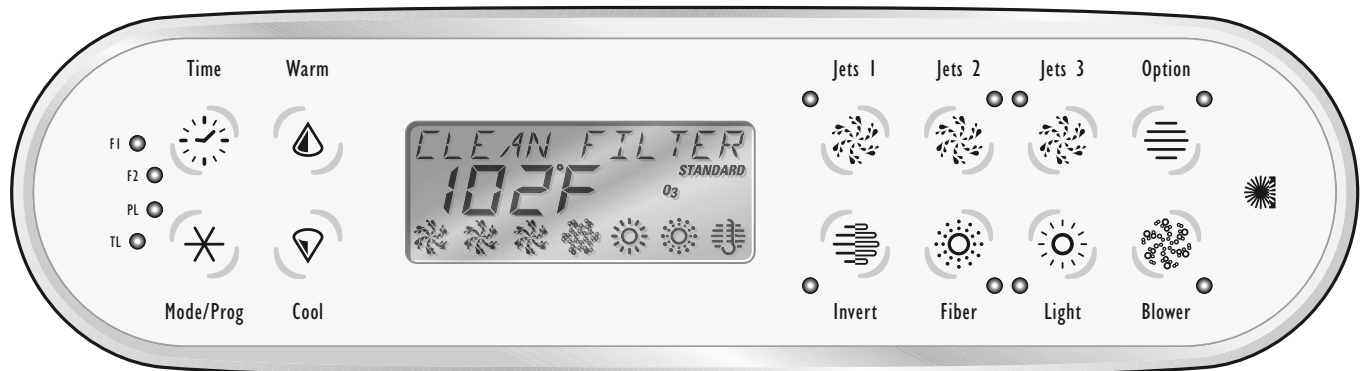
ML 900
PN 52654
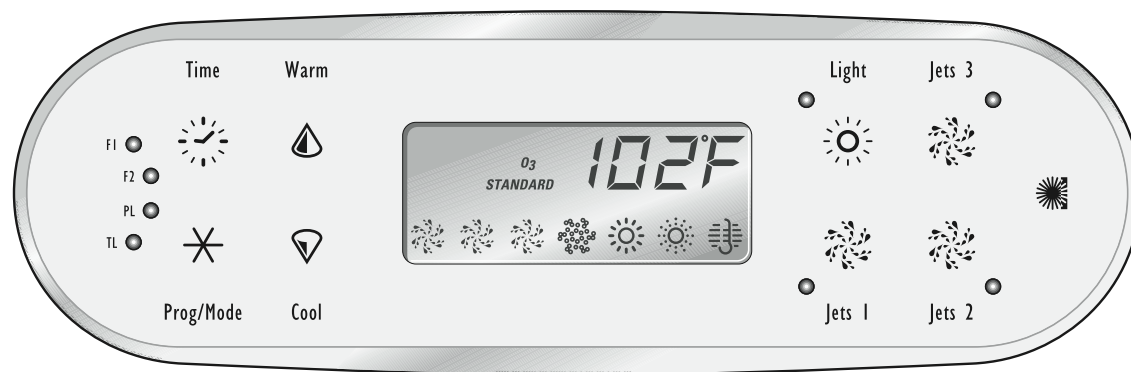
ML 700
PN 53649

Auxiliary panels are available in the following configurations:

Infrared Remote which has a separate connector on the board.

4-Button
2-Button
1-Button

Configuration of the 4-Button and 2-Button Aux Panels can be done for custom applications.

1-button Aux panels are available in 4 different versions.

There are four Aux Panel connectors on the board.

Panel "Scrunching" on the ML 900 (requires custom panel overlays)

With DIP switch B6, unused buttons on an ML 900 can be "scrunched" in a custom configu- ration or the unused positions can be left blank.

Scrunching moves the buttons in a counter-clockwise direction from the bottom row to the top row, on the right side of the display. The result is that all missing buttons or gaps appear on the bottom row, just to the right of the display.

Note: Some button positions

MUST be used in order to perform certain functions. For instance, the Jets 2 button and the Blower button are used in certain button press combinations, and need to be available to a user, even if they are labeled with a different name.

See reference cards for details.