System PN 53254_03 (Mach 2)
Balboa Instruments

System Model # GL8-GL8000-RCA-3.0K
Universal AC Service Option

Base PCBA PN
GL8000 – 53255-01

Base Panels
ML700 – PN 52649
ML900 – PN 52654

The ML700 Panel may require Aux panels for adequate functionality.
Single Service Connection Shown Above

Converting from Single Service to Dual Service:

Remove the white wire connecting pins J26 and J23, then insert the second set of incoming wires provided.

Insert and secure the second brown wire into the #1 slot of the terminal block and the second blue wire into the #2 slot of the terminal block.
DIP Switch A2 should be set to the "High Amp" setting.
Converting from Single Service to 3-Phase Service:
Important: The 3-phase service MUST include a neutral wire.

Remove the white wire connecting pins J26 and J23.
Remove the blue wire connecting pins J57 and J28.

Move the brown wire to J28.

DIP Switch A2 should be set to the "High Amp" setting.
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 O₃ 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
- White or Blue Neutral Conductor
- Empty

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) | See Figure 1 to control amp draw requirements |
|    | 4  | In "ON" position, displays time in 24 hours (military time) | In "OFF" position, displays 12 hour time |
|    | 5  | In "ON" position, displays temperature in Celsius | In "OFF" position, displays temperature in Fahrenheit |
|    | 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) |
|    | 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 |
|    | 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 |
|     | 12 | Persistent Memory Reset (used when the spa is powering up) |

**Key**

<table>
<thead>
<tr>
<th>12345678</th>
<th>A9 A10</th>
<th>Circ Pump Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF OFF</td>
<td>OFF OFF</td>
<td>No Circ Pump</td>
</tr>
<tr>
<td>1</td>
<td>OFF 24 Hr</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>OFF 24 Hr w/3° Shut-Off</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>OFF Acts like P1 low (Filter Cycles, Polls)</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1**

<table>
<thead>
<tr>
<th>12345678</th>
<th>B8 OFF</th>
<th>B8 ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>OFF</td>
<td>Spa light and fiber light each separately controlled; fiber light enabled on both FiberLight and EitherLight buttons; spa light enabled on SpaLight buttons only</td>
<td></td>
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</table>

**Figure 2**

<table>
<thead>
<tr>
<th>12345678</th>
<th>B4 OFF</th>
<th>B4 ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>OFF</td>
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**Figure 3**
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 ML900 (requires custom panel overlays)

With DIP switch B6, unused buttons on an ML900 can be “scrunched” in a custom configuration 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.