

# EL8000 Hot Sheet

System PN 52887\_04 (Mach 2)

Balboa Instruments

System Model # EL8-EL8000-YCAH

Base PCBA PN

EL8000 – 52888-01 (PCB 21858 Rev E)

Base Panels

ML 700 – PN 52649

ML 900 – PN 52654

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



52887\_04-97\_A.PDF 5/23/2005

# Manufacturer Settings for EL8000

## INPUT

- 240V; 4 wires (hot, hot, neutral, ground)

## OUTPUTS

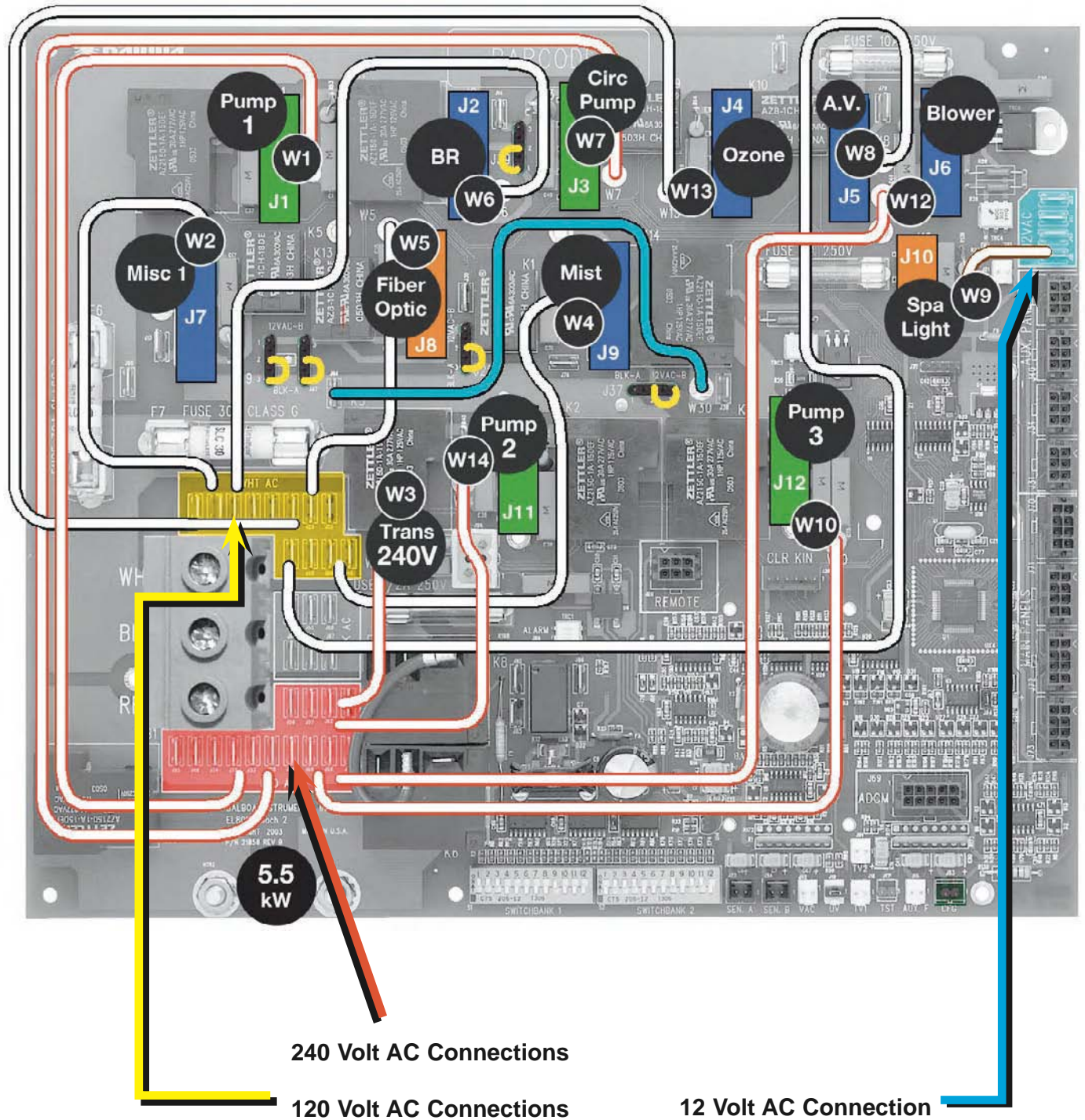
- 240V Pump 1, dual speed (high speed: 15-minute timeout; low-speed; 2-hour timeout)
- 240V Pump 2, dual speed (15-minute timeout; 5-minute for purge cycle w/filter)
- 240V Blower, single speed (15-minute timeout; low-speed; 30-second for purge cycle w/filter)
- 120V Ozone (ozone runs with pump 1 low)
- 12V Spa Light (4-hour timeout)
- 120V Fiber-Optic Light only (optional) (fiber-optic light w/wheel)
- 120V Mister
- 120V AV (stereo)
- Heater: 5.5kw @ 240V
- 240V Circ Pump

## FEATURES

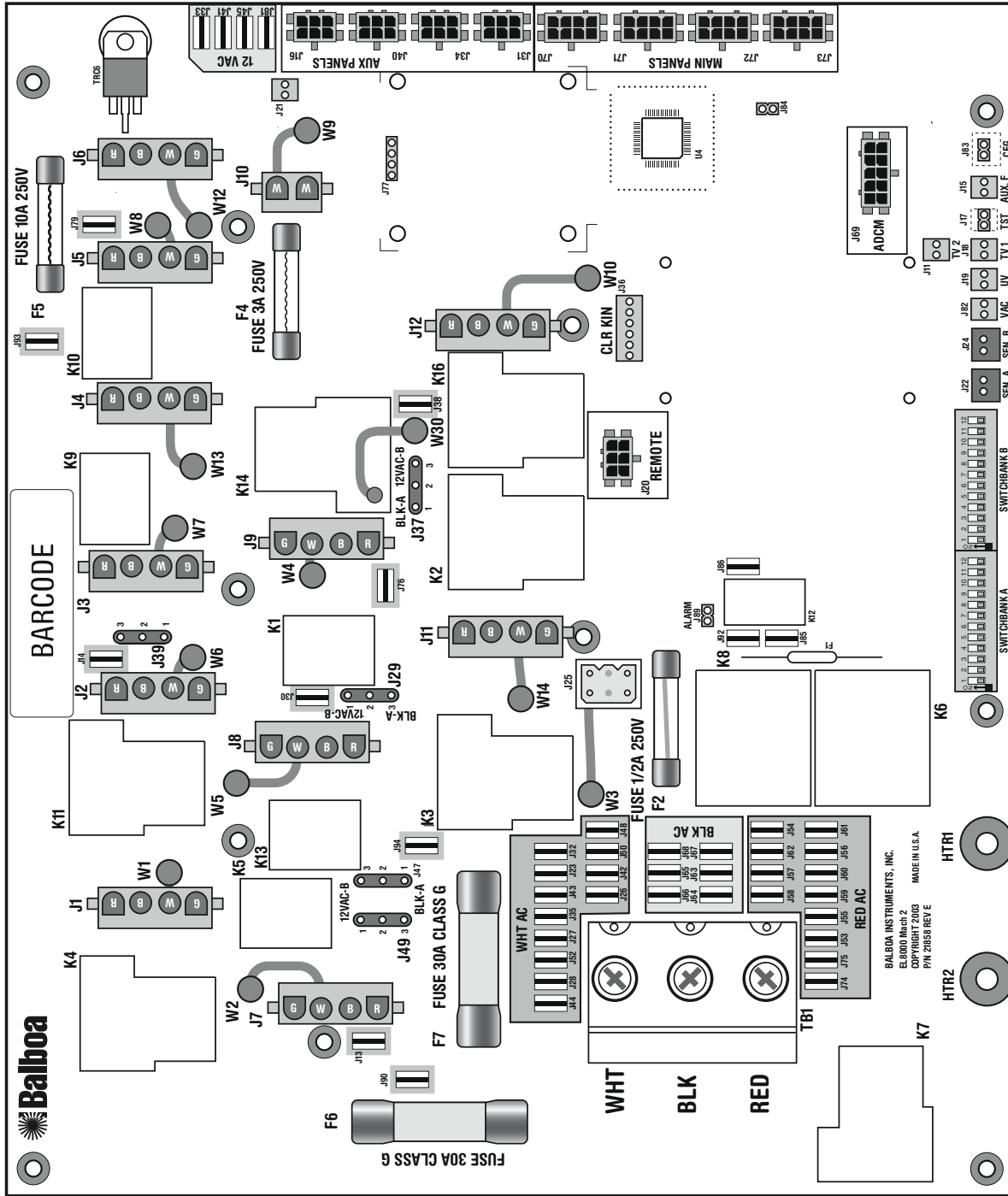
- See ML900 panel reference card (pages 9-12 of this document)
- See ML700 panel reference card (pages 13-16 of this document)



# Circuit Board Configuration



# Circuit Board Layout



J1 & W1 .. Pump 1

J2 & W6 .. BR  
With J39

J3 & W7 .. Circ Pump

J4 & W13 Ozone

J5 & W8 .. A.V.

J6 & W12 Blower

J7 & W2 .. Misc 1

J8 & W5 .. Fiber Optic  
With J47 & J49

J9 & W4 .. Mist  
With J29

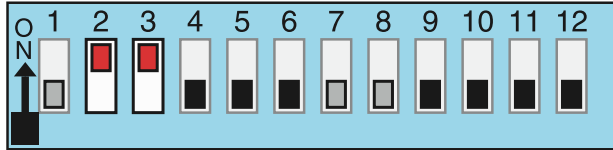
J10 & W9 Spa Light  
With J37

J11 & W14 Pump 2

J12 & W10 Pump 3  
With W30 to J94

# DIP Switches and Jumpers

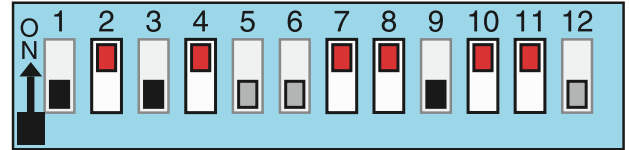
Switchbank A



A1, Test Mode OFF  
 A2/A3, Four H.S. Pumps w/Heater  
 A4, 12 Hour Time  
 A5, Degrees F  
 A6, Short Timeouts

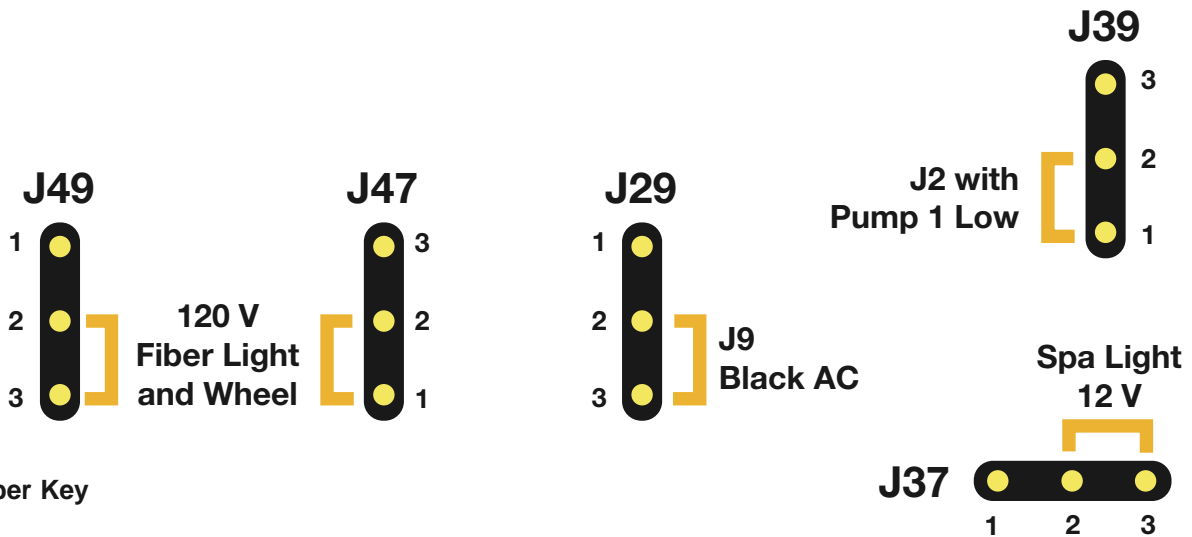
A7, Cleanup Cycle OFF  
 A8, 1Hr O<sub>3</sub> Disable OFF  
 A9/A10, No Circ Pump  
 A11, Ozone w/P1 low  
 A12, Memory ON

Switchbank B



B1, Pump 2 2-Speed  
 B2/B3, Single Speed Blower (On/Off)  
 B4, F/O Light ON  
 B5, Pump 4 OFF  
 B6, Scrunching OFF

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



**Jumper Key**

- J29 . . . . . Jumper on Pin 1 and 2 will power J9-pin 1 (Mist) at 12 Volts AC.  
 Jumper on Pin 2 and 3 will power J9-pin 1 (Mist) at 120 Volts AC.  
*Note: W4 controls voltage on return line of J9-pin 3 and must be set for the same voltage.*
- J37 . . . . . Jumper on Pin 1 and 2 will power one leg of J10-pin 1 (Spa Light) at 120 Volts AC.  
 Jumper on Pin 2 and 3 will power one leg of J10-pin 1 (Spa Light) at 12 Volts AC.  
*Note: W9 controls voltage on the return line of J10-pin 2 and must be set for the same voltage.*
- J39 . . . . . Jumper on Pin 1 and 2 will power J2 pin 2 with Pump 1 Low.  
 Jumper on Pin 2 and 3 will power J2 pin 2 with the Circ Pump.  
*Note: W6 controls voltage on common line of J2-pin 3*
- J47 . . . . . Jumper on Pin 1 and 2 will power J8 pin 2 (Fiber Optic Light) and J7 at 120 Volts AC.  
 Jumper on Pin 2 and 3 will power J8 pin 2 (Fiber Optic Light) at 12 Volts AC.  
*Note: J47 and J49 must be set for the same voltage.*
- J49 . . . . . Jumper on Pin 2 and 3 will power J8 pin 1 (Fiber Optic Wheel) at 120 Volts AC.  
 Jumper on Pin 1 and 2 will power J8 pin 1 (Fiber Optic Wheel) at 12 Volts AC.  
*Note: J47 and J49 must be set for the same voltage.*



# Ozone Connections

First, configure the EL Circuit Board to deliver the desired voltage to the on-board connector (J4). Connect the W13 wire to either White AC (120V) or Red AC (240V) to set the voltage.

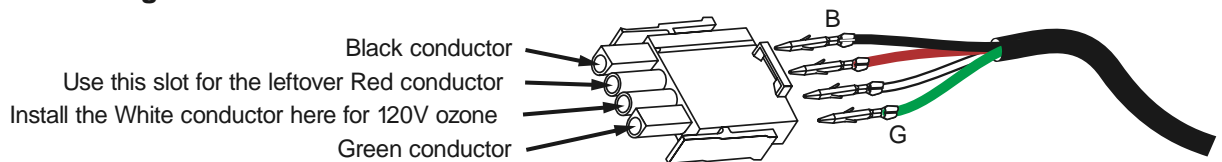
The pin next to the bottom (ground) pin of J4 is fed by W13 and sets the voltage in the connector.

If the board is set up to operate a 120V ozone generator, the connector on the ozone generator is likely to be configured correctly, but should be compared to the illustration below.

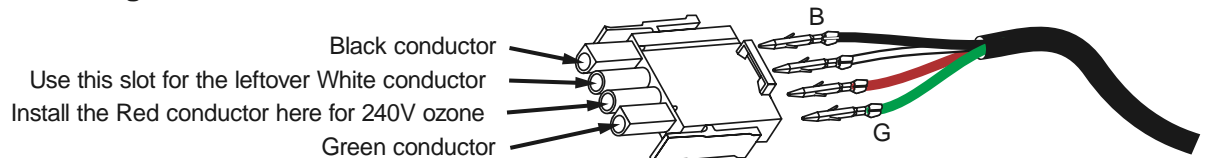
If a 240V ozone generator is required, be sure the red wire in the ozone cord is positioned in the connector next to the green ground wire as described below.

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.

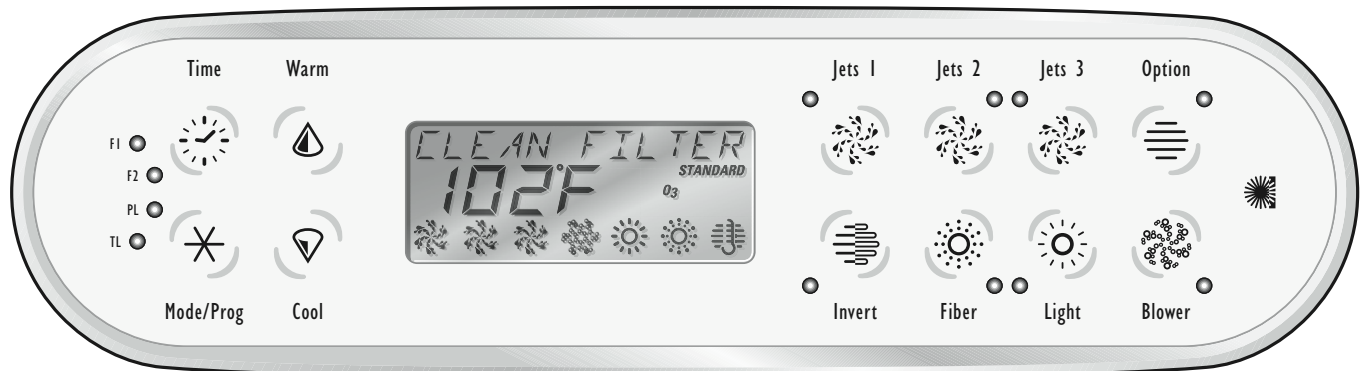
## Ozone connector configuration for 120V 60Hz



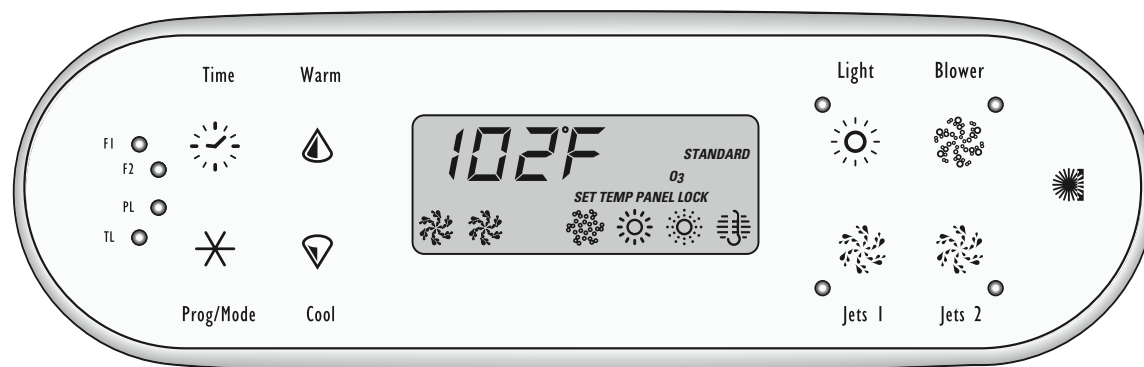
## Ozone connector configuration for 240V 60Hz



# Panel Configuration



ML 900  
PN 52654



ML 700  
PN 53649

## Auxiliary panels are available in the following configurations:

Infrared Remote (Dolphin) 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 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.