

LZM2U Hot Sheet

Marquis Corp. System PN 54342

System Model # VSP-LZM2U-CCAJ

Software Version # 23

EPN # 1598

Base PCBA - PN 59007

PCB VS500Z - PN 22972 Rev C or D

Base Panels

Super Duplex – PN 51754



Basic System Features and Functions

Power Requirements

- 120/240VAC, 60Hz, 16/32A, Class A GFCI-protected service (Circuit Breaker rating = 20/40A max.)
- 4 wires (hot, hot, neutral, ground)

System Outputs

Setup 1 (As Manufactured)

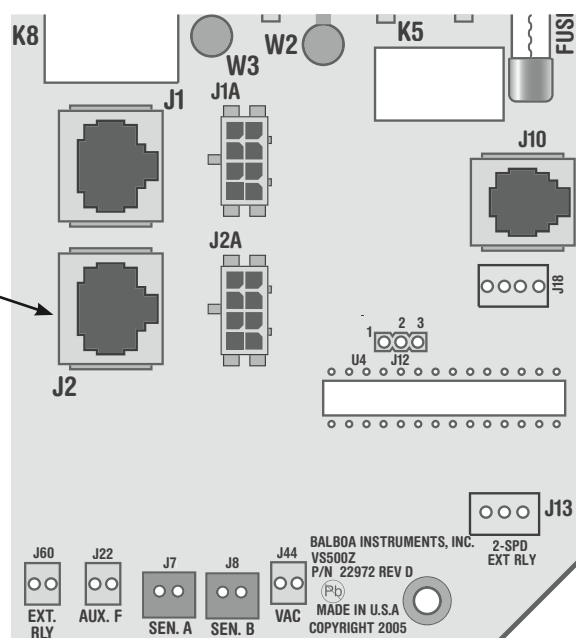
- 120V Pump 1, 2-Speed
- 120V Pump 2, 1-Speed
- 120V Ozone *
- 12V Spa Light
- 120V AV (Stereo)
- 240V 4.0kW Heater **

* Ozone and Circ Pump must be same voltage.

** Heater wattage is rated at 240V. When running 120V to heater, output is approximately 25%.

Additional Options

- Full Feature Dolphin Remote and Spa-only Dolphin Remote
- IR Receiver Module
Connects to terminal J1 or J2
- MoodEFX Lighting
Connects to Spa Light terminal J20
- FiberEFX Lighting
Connects to Spa Light terminal J20



Basic System Features and Functions

Any time you change a DIP Switch, other than A1, you must reset Persistent Memory for your new DIP Switch Settings changes to take effect. If you do not reset Persistent Memory, your system may function improperly.

To reset Persistent Memory:

- Power down by disconnecting power source from spa.
- Put a jumper on across J43, covering both pins. (See illustration below)
- Power up by connecting power source to spa.
- Wait until “P” is displayed on your panel.
- Power down again.
- Remove jumper from J43 (May also move to cover 1 pin only)
- Power up again.

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 the filter settings, the set temperature, and the heat mode.

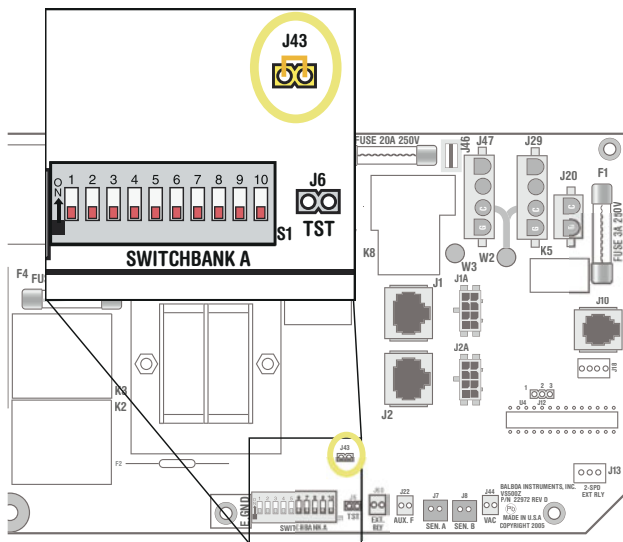
Persistent Memory is not used for Time of Day. Only models with a Serial Deluxe panel installed (VS5xxDZ and GS5xxDZ) can display the time. However, during power loss to the spa, the system will lose the correct time, and reset to 12:00 PM when power is restored.

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 67 38, that is a VS511SZ at version 38.
- Displayed next is: “24” (indicating the system is configured for a heater between 3 and 6 kW) or “12” (indicating the system is configured for a heater effectively* between 1 and 3 kW). “24” should appear for all VS models running at 240VAC. “12” should appear for all VS models running at 120VAC, as well as all GS models. (*A heater which is rated at 4 kW at 240VAC will function as a 1 kW heater at 120VAC.)
- “P” will appear to signal the start of Priming Mode.

At this point, the power up sequence is complete. Refer to the Reference Card for the VS or GS System model of your spa for information about how the spa operates from this point on, including how to adjust the Time of Day if using a Serial Deluxe style panel.

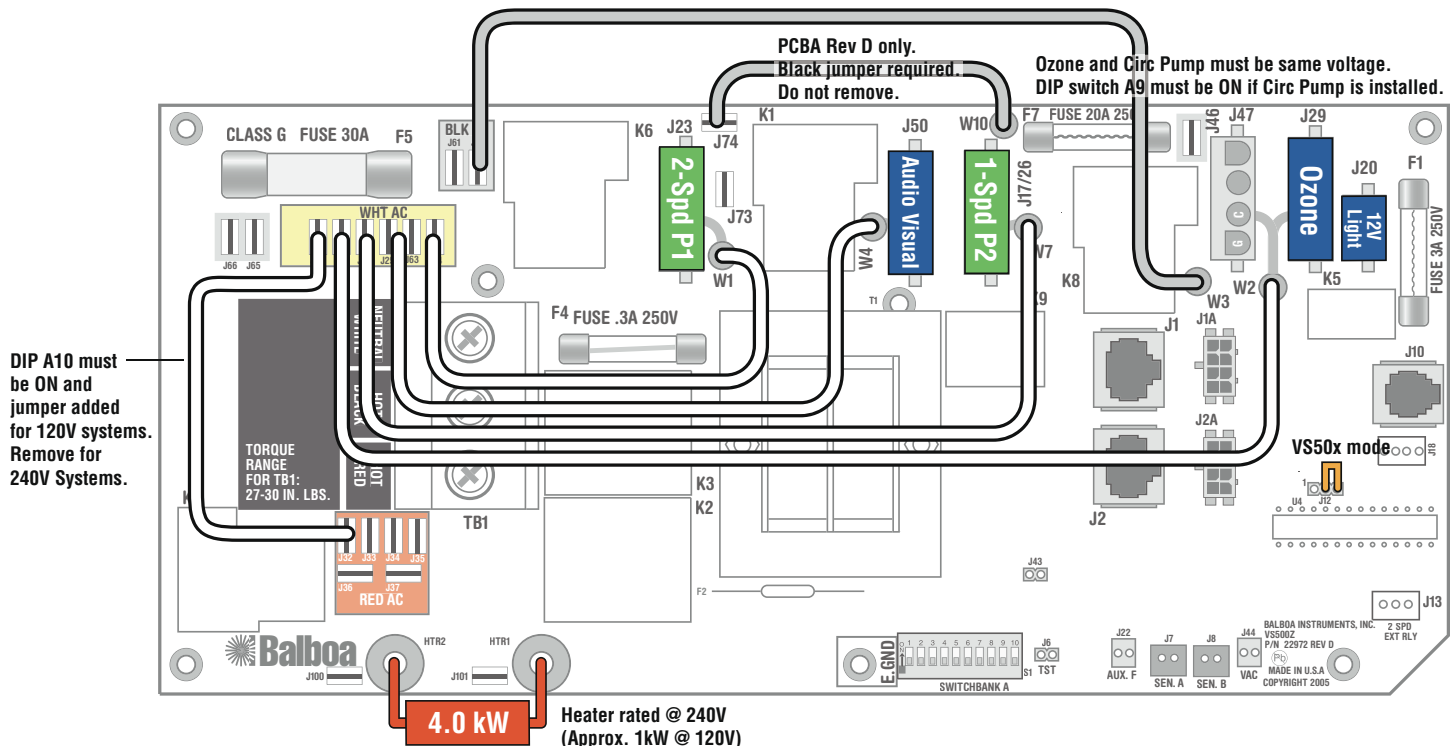


J43 on VS5xxZ and VS300 Series Main Board Shown.

Wiring Configuration and DIP Settings

Setup 1 (As Manufactured)

- 120V Pump 1, 2-Speed
- 120V Pump 2, 1-Speed
- 12V Spa Light
- 120V Ozone
- 120V AV (Stereo)
- 240V 4.0kW Heater
- Super Duplex Main Panel



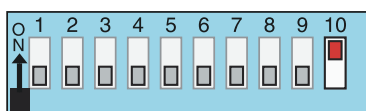
WARNING: Main Power to system should be turned OFF BEFORE adjusting DIP switches.

WARNING: Persistent Memory (J43) must be RESET to allow new DIP switch settings to take effect. (See Persistent Memory page)

SSID #

70
61
23

Switchbank A



A1, Test Mode OFF
A2, N/A
A3, N/A
A4, Aux Freeze
A5, N/A

A6, 60 Hz
A7, N/A
A8, Degrees F
A9, N/A
A10, Low Amp mode

VS50x Compatible



J43

Memory Reset

Wiring Color Key

- 120 Volt Connections
- 240 Volt Connections
- Black AC Jumpers
- 12 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

Panel Button Assignments

1=Jets
2=Temp

3=Settings
4=Light

Panel Button Positions



DIP Switches and Jumpers Definitions

SSID 70 61 23

DIP Switch Key

- A1 Test Mode (normally OFF)
- A2 N/A
- A3 N/A
- A4 Aux Freeze (must be OFF)
- A5 N/A
- A6 "ON" position: 50Hz operation
"OFF" position: 60Hz operation
- A7 N/A
- A8 "ON" position: temperature is displayed in degrees Celsius
"OFF" position: temperature is displayed in degrees Fahrenheit
- A9 N/A
- A10 "ON" position: heater is disabled while any high-speed pump or blower is running (low amperage mode)
"OFF" position: heater can run while any/all high-speed pumps or blowers are running (high amperage mode)

** J2 panel connector on Main Board must be a 6-pin connector.

Note: J17/26 is required. For no J17/26, use VS500Z.

Jumper Key

- J12** Jumper on Pin 1 and 2 will enable VS51x/VS5xxS/VS5xxD compatibility mode.
Jumper on Pin 2 and 3 will enable VS50x compatibility mode (Do not use with Standard or Deluxe Panels).
- J43** When jumper is placed on 2 pins during power-up, system will reset persistent memory.
Leave on 1 pin only to enable persistent memory feature.

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 hot sheet.

Panel Button Positions



Panel Button Assignments

- 1=Jets**
- 2=Temp**
- 3=Settings**
- 4=Light**

Ozone Connections

Ozone Connector Voltage: The VS500Z circuit board is factory configured to deliver a preset voltage (120V or 240V) to the on-board ozone connector (J29). See the ratings table on the wiring diagram attached to the cover of the enclosure for the configured voltage. For 240V output W2 connects to Red AC and for 120V output W2 connects to White AC.

The voltage to the ozone connector can be changed in the field if required. W2 just needs to be set for the required voltage.

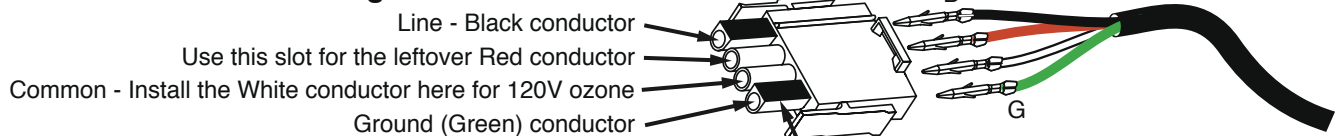
WARNING: Changing the voltage of the ozone connector also effects the voltage supplied to the circ pump connector (J47). Any equipment controlled by that connector may be damaged if the wrong voltage is selected.

Balboa Ozone Generator: 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.

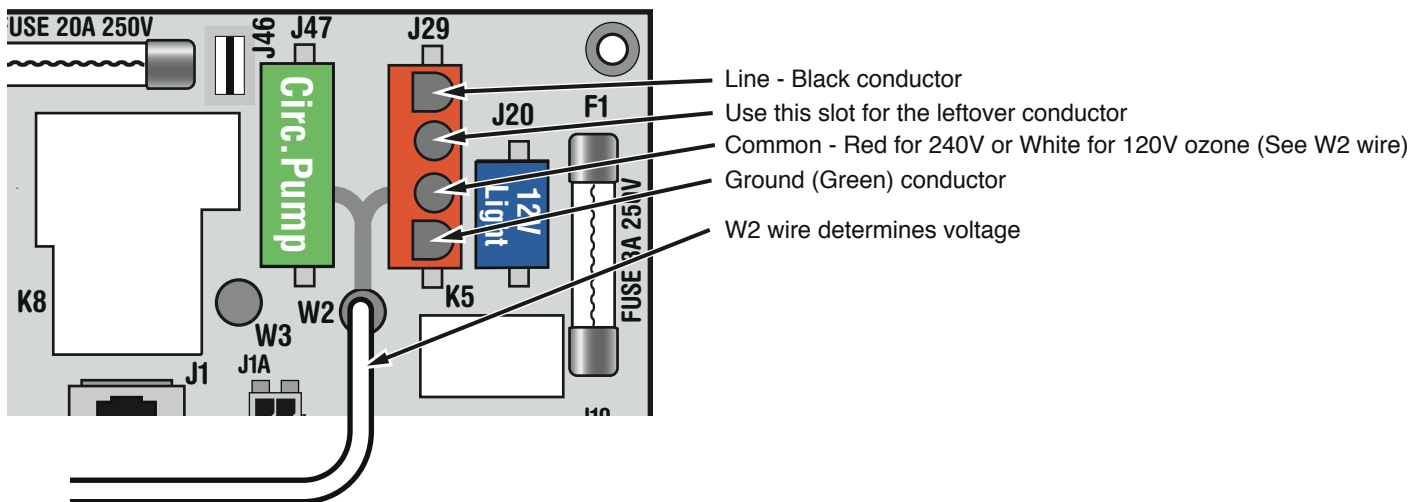
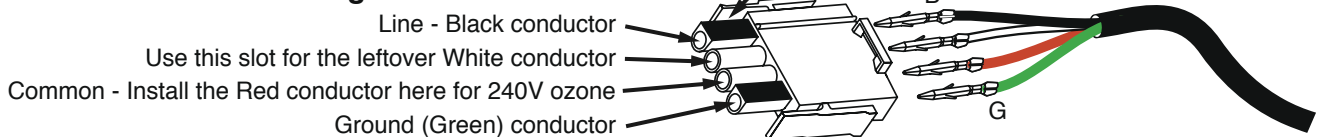
If a 240V ozone generator is required, be sure the red wire in the ozone cord is positioned in the connector next to the green ground wire as described below.

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.

Balboa Ozone connector configuration for 120V 60Hz



Balboa Ozone connector configuration for 240V 60Hz



Duplex Panel Configurations

SETUP 1



Super Duplex

PN 51754 with No Overlay (Customer supplied)

- Connects to Main Panel terminal J1