# BP100G5 Tech Sheet

**Customer:** **Balboa Water Group**

**Part Number:**
59289-02 5.5kW 825 Incoloy
59290-02 4.0kW 825 Incoloy
59291-02 Remote Heater System -- Heater is sold separately

Custom Box Overlay ☐
Box Overlay Part Number N/A

| | |
|---|---|
| UL System Model For 5.5kW: | BP1-BP100G5-BU |
| UL System Model For 4.0kW: | BP1-BP100G5-BS |
| UL System Model For Remote: | BP1-BP100G5-B |
| Software Version ID: | M100_230 V52.0 |
| Software Version: | 52.0 |
| File Name: | BP100_52.0_BP100G5.hex |
| Configuration Signature: | 88E950D6 |

Eng. Project Number: 5866

Control Panels (See later pages for more information):

| | |
|---|---|
| spaTouch™3 | Any version |
| spaTouch™2 | Any version (version 2.0 or later required for bba™2 fully integrated functionality) |
| spaTouch™Mini | Any version |
| TP700/740 | Any version |
| TP600 | Version 2.7 and later (Version 2.12 or later required for bba™/bba™2 On/Off control via menu) |
| TP500 | Any version |
| TP400T US | Version 2.7 and later (TP400T CE may be used) (Version 2.12 or later required for bba™/bba™2 On/Off control via menu) |
| TP400W US | Version 2.7 and later (TP400W CE may be used) (Version 2.12 or later required for bba™/bba™2 On/Off control via menu) |
| TP200T | Any version |
| TP200W | Any version |

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# System Revision History

| Part # | EPN | Date | Originator | Changes Made |
|---|---|---|---|---|
| 59289<br>59290<br>59291 | 5205 | 09-03-19 | BWG | Generic BP100G5 system, same as BP100G4 (and thus defaults to 120V), but ships without GFCI cord. |
| 59289-01<br>59290-01<br>59291-01 | 5353 | 02-09-21 | BWG | Update to new system board shape. |
| 59289-01<br>59290-01<br>59291-01 | 5611 | 08-10-21 | BWG | Update 240V conversion section on wiring diagram. |
| 59289-01<br>59290-01<br>59291-01 | 5659<br>5734 | 11-10-22 | BWG | Correction to fuse value on wiring diagrams.<br>Correction to TB1 input wiring. |
| 59289-02<br>59290-02<br>59291-02 | 5866 | 08-20-24 | BWG | Upgrade F3 fuse value. Change heaters from 800 Inc to 825 Inc. |
| | | | | |
| | | | | |
| | | | | |

bba™2 / bba™3 (Balboa Bluetooth Amp) connection is documented separately.

bba™2 / bba™3 is integrated into graphic display panels (TP700/740 and spaTouch™).
With TP200/TP400/TP500/TP600, use the “BT” entry on the menu to toggle bba™2 / bba™3 power On/Off.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# Basic Functions Setup 1 - 3

## Power Requirements:

120VAC, 50/60Hz*, 12A, Cord-connected Class A GFCI customer-supplied & required (Circuit Breaker = 15A max.)**
3 wires [hot, neutral, ground].

240VAC, 50/60Hz*, 40A, Class A GFCI-protected service (Circuit Breaker = 50A max.) -- for field converions of heater to 240VAC
4 wires [hot, hot (optional), neutral, ground].

240VAC, 50/60Hz*, 48A, Class A GFCI-protected service (Circuit Breaker = 60A max.) -- for factory conversions of system to 240VAC
4 wires [hot, hot, neutral, ground].

**HiPot Testing Note:**
Disconnect slip terminal with green wires from J6 prior to performing HiPot test. Failure to disconnect may cause a false failure of the test. Reconnect terminal to J6 after successful completion of HiPot test.

* BP systems automatically detect 50Hz vs 60Hz. However, power frequency (50Hz vs 60Hz) is just one of many differences between North American (UL) and CE power, and it is because of these other differences that different BP systems must be used for UL vs CE territories. Also, there are a few countries that use CE power but 60 Hz (such as South Korea) which need CE systems, and a few countries that use UL power but 50 Hz which need UL systems.

** In case the spa ships configured for 120VAC-only with no GFCI cord attached, the spa must be hooked up to a wall-mounted 20A GFCI breaker, which provides a 16A service.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.



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# Basic Functions Setup 1 - 3

## System Ouputs:

| | | | | |
|---|---|---|---|---|
| Pump 1 | 120VAC* | 2-Speed<br>This is the heater pump in Setup 2.<br>Must deliver 20 GPM through heater | 9.0A max** | 15-minute timer (30-minute timer for P1 Low in non-circ Setup 2 only) |
| | | 1 Speed in Setup 1<br>Unused in Setup 3 | | |
| Circ Pump | 120VAC* | 1-Speed<br>This is the heater pump in Setups 1 & 3.<br>Must deliver 20 GPM through heater | 1.2A max** | Programmable Filtration Cycles + Polling |
| Ozone | 120VAC* | | 0.3A max** | Slaved to Circ Pump in Circ Setups and to Pump 1 Low in Non-Circ Setups |
| Spa Light | 10VAC | On/Off | 1A max** | 240-minute timer. |
| A/V (Stereo) | 120VAC | Hot | 1.5A max | Always on |
| Heater | 5.5kW @ 240VAC (approx 1.4kW @ 120VAC)<br>4.0kW @ 240VAC (1.0kW @ 120VAC) | | | |

*Pump 1, Circ Pump and Ozone must be the same voltage.

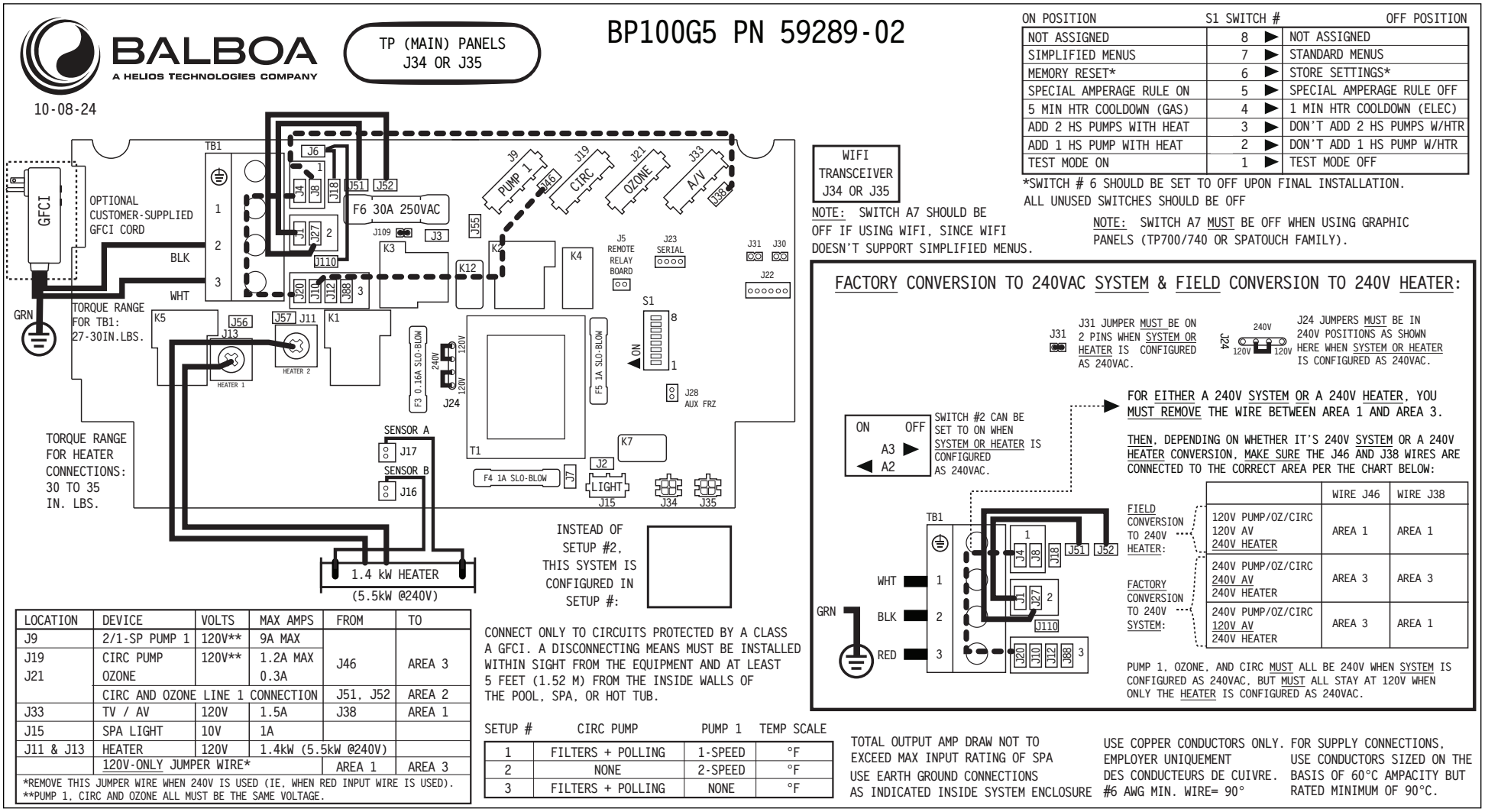
With 240VAC power input after field conversion of heater to 240V, Pump 1, Circ pump and Ozone must all be 120V. With 240VAC power input after factory conversion of system to 240V, Pump 1, Circ pump and Ozone must all be 240V. See wiring diagram for rewiring instructions.

** These are suggestions on how to balance amperages if using all of these ouptuts, so as to stay within the 12A service limit with a GFCI cord. If not using a circ pump, then one or more of the other outputs can have slightly higher amperage. But in no case should these 4 ouptuts add up to more than 12A.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# Hardware Setup

## Wiring Diagram for Integral Heater Version




| ON POSITION | S1 SWITCH # | OFF POSITION |
|---|---|---|
| NOT ASSIGNED | 8 ▶ | NOT ASSIGNED |
| SIMPLIFIED MENUS | 7 ▶ | STANDARD MENUS |
| MEMORY RESET* | 6 ▶ | STORE SETTINGS* |
| SPECIAL AMPERAGE RULE ON | 5 ▶ | SPECIAL AMPERAGE RULE OFF |
| 5 MIN HTR COOLDOWN (GAS) | 4 ▶ | 1 MIN HTR COOLDOWN (ELEC) |
| ADD 2 HS PUMPS WITH HEAT | 3 ▶ | DON'T ADD 2 HS PUMPS W/HTR |
| ADD 1 HS PUMP WITH HEAT | 2 ▶ | DON'T ADD 1 HS PUMP W/HTR |
| TEST MODE ON | 1 ▶ | TEST MODE OFF |

| WIRE J46 | WIRE J38 |
|---|---|
| 120V PUMP/OZ/CIRC<br>120V AV<br>240V HEATER | AREA 1 | AREA 1 |
| 240V PUMP/OZ/CIRC<br>240V AV<br>240V HEATER | AREA 3 | AREA 3 |
| 240V PUMP/OZ/CIRC<br>120V AV<br>240V HEATER | AREA 3 | AREA 1 |

| LOCATION | DEVICE | VOLTS | MAX AMPS | FROM | TO |
|---|---|---|---|---|---|
| J9 | 2/1-SP PUMP 1 | 120V** | 9A MAX | J46 | AREA 3 |
| J19<br>J21 | CIRC PUMP<br>OZONE | 120V** | 1.2A MAX<br>0.3A | | |
| | CIRC AND OZONE LINE 1 CONNECTION | | | J51, J52 | AREA 2 |
| J33 | TV / AV | 120V | 1.5A | J38 | AREA 1 |
| J15 | SPA LIGHT | 10V | 1A | | |
| J11 & J13 | HEATER | 120V | 1.4kW (5.5kW @240V) | | |
| | 120V-ONLY JUMPER WIRE* | | | AREA 1 | AREA 3 |

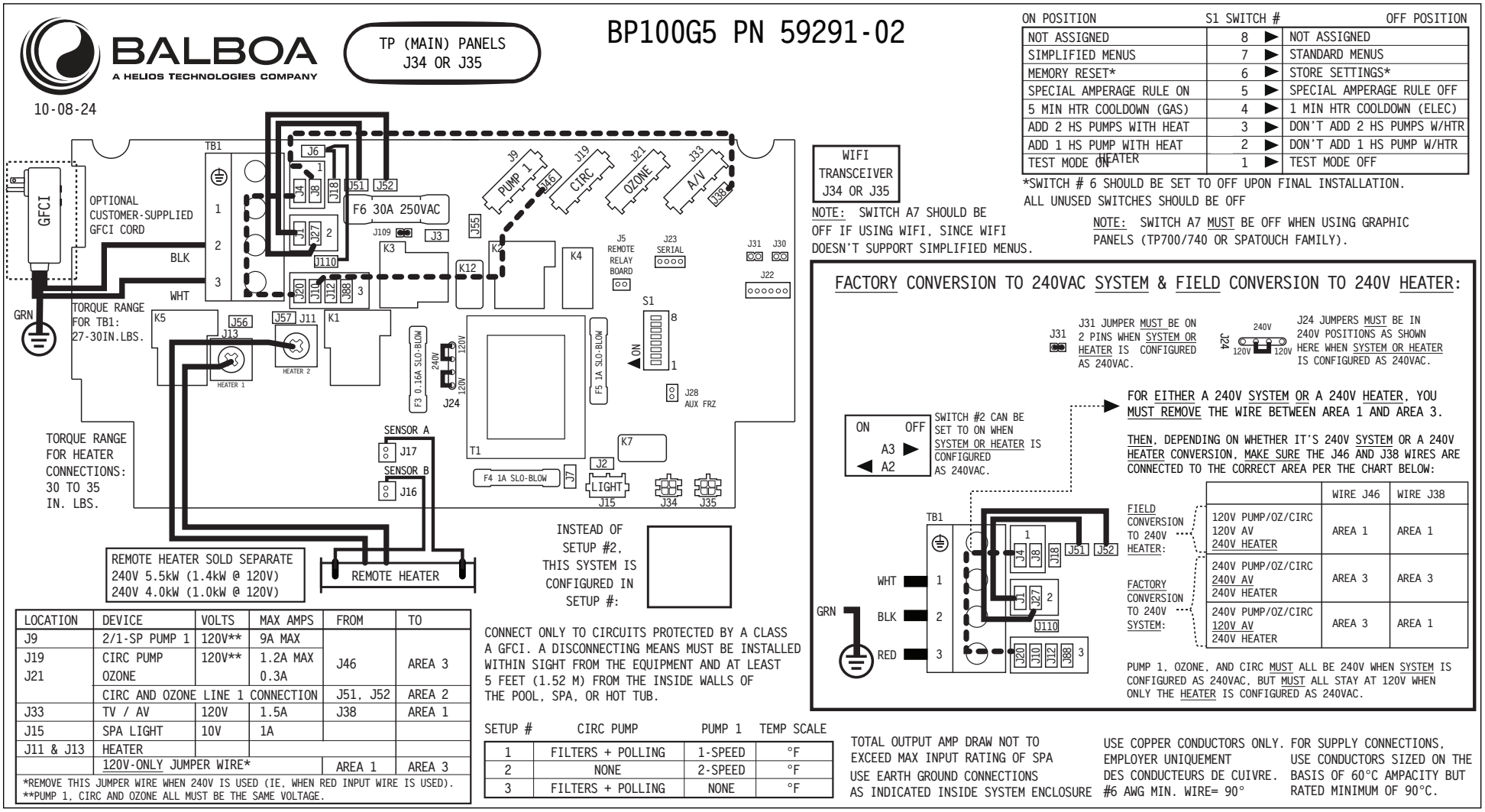
*REMOVE THIS JUMPER WIRE WHEN 240V IS USED (IE, WHEN RED INPUT WIRE IS USED).
**PUMP 1, CIRC AND OZONE ALL MUST BE THE SAME VOLTAGE.

| SETUP # | CIRC PUMP | PUMP 1 | TEMP SCALE |
|---|---|---|---|
| 1 | FILTERS + POLLING | 1-SPEED | °F |
| 2 | NONE | 2-SPEED | °F |
| 3 | FILTERS + POLLING | NONE | °F |

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# Hardware Setup

## Wiring Diagram for Remote Heater Version




| ON POSITION | S1 SWITCH # | OFF POSITION |
|---|---|---|
| NOT ASSIGNED | 8 ▶ | NOT ASSIGNED |
| SIMPLIFIED MENUS | 7 ▶ | STANDARD MENUS |
| MEMORY RESET* | 6 ▶ | STORE SETTINGS* |
| SPECIAL AMPERAGE RULE ON | 5 ▶ | SPECIAL AMPERAGE RULE OFF |
| 5 MIN HTR COOLDOWN (GAS) | 4 ▶ | 1 MIN HTR COOLDOWN (ELEC) |
| ADD 2 HS PUMPS WITH HEAT | 3 ▶ | DON'T ADD 2 HS PUMPS W/HTR |
| ADD 1 HS PUMP WITH HEAT | 2 ▶ | DON'T ADD 1 HS PUMP W/HTR |
| TEST MODE ON (HEATER) | 1 ▶ | TEST MODE OFF |

*SWITCH # 6 SHOULD BE SET TO OFF UPON FINAL INSTALLATION.
ALL UNUSED SWITCHES SHOULD BE OFF

| | WIRE J46 | WIRE J38 |
|---|---|---|
| FIELD CONVERSION TO 240V HEATER: 120V PUMP/OZ/CIRC 120V AV 240V HEATER | AREA 1 | AREA 1 |
| FACTORY CONVERSION TO 240V SYSTEM: 240V PUMP/OZ/CIRC 240V AV 240V HEATER | AREA 3 | AREA 3 |
| FACTORY CONVERSION TO 240V SYSTEM: 240V PUMP/OZ/CIRC 120V AV 240V HEATER | AREA 3 | AREA 1 |

| LOCATION | DEVICE | VOLTS | MAX AMPS | FROM | TO |
|---|---|---|---|---|---|
| J9 | 2/1-SP PUMP 1 | 120V** | 9A MAX | J46 | AREA 3 |
| J19 J21 | CIRC PUMP OZONE | 120V** | 1.2A MAX 0.3A | | |
| | CIRC AND OZONE LINE 1 CONNECTION | | | J51, J52 | AREA 2 |
| J33 | TV / AV | 120V | 1.5A | J38 | AREA 1 |
| J15 | SPA LIGHT | 10V | 1A | | |
| J11 & J13 | HEATER | | | | |
| | 120V-ONLY JUMPER WIRE* | | | AREA 1 | AREA 3 |

*REMOVE THIS JUMPER WIRE WHEN 240V IS USED (IE, WHEN RED INPUT WIRE IS USED).
**PUMP 1, CIRC AND OZONE ALL MUST BE THE SAME VOLTAGE.

| SETUP # | CIRC PUMP | PUMP 1 | TEMP SCALE |
|---|---|---|---|
| 1 | FILTERS + POLLING | 1-SPEED | °F |
| 2 | NONE | 2-SPEED | °F |
| 3 | FILTERS + POLLING | NONE | °F |

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.



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# Setup Reference Table

| Setup # | Circ Pump | Pump 1 | Temp Scale |
|---|---|---|---|
| **1** | Programmable Filtration + Polling | 1-Speed | °F |
| **2** | None | 2-Speed | °F |
| **3** | Programmable Filtration + Polling | None | °F |

**System** (and any replacement board) **is shipped in Setup 2**

As shown on additional wiring diagram sections:

NOTE: IF SPA IS CONFIGURED FOR ALL 120V, BUT HAS NO GFCI CORD,
IT MUST BE CONNECTED TO A WALL-MOUNTED 20A GFCI BREAKER,
WHICH PROVIDES A 16A SERVICE.

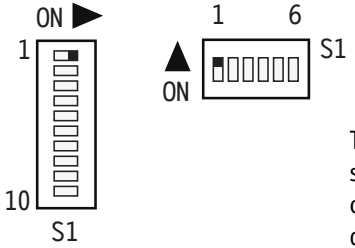
Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# Changing Software Setups with spaTouch™ Icon-Driven Panels

## Test Menu Access (S1, Switch 1 ON) *Service Technician ONLY.*

***DANGER! HIGH VOLTAGE WILL BE ACCESSIBLE! SERVICE TECHNICIAN ONLY!***

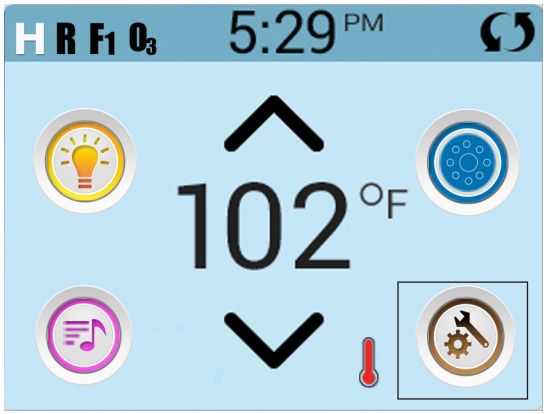
While the system is running, move DIP Switch 1 (on S1 on the Main circuit board) to ON. The system will enter Test Mode.
Moving DIP Switch 1 to OFF will exit Test Mode.

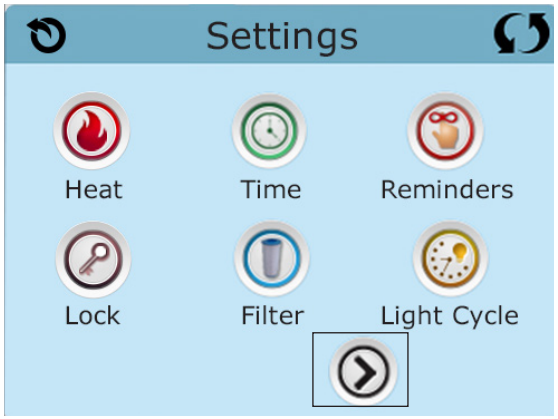


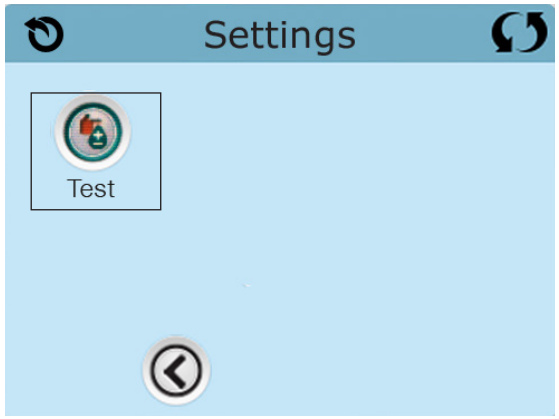

## To Change Software Setups:

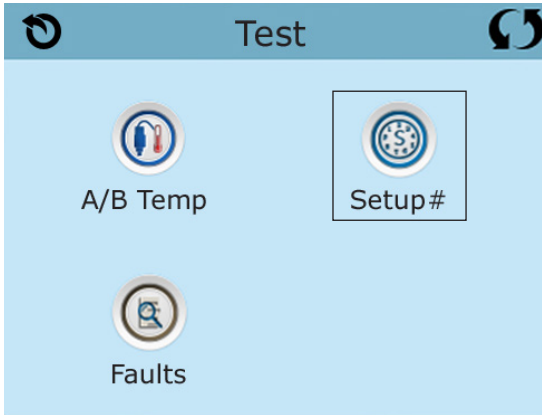
While in Test Mode, press the indicated icons to move from screen to screen.

The example screens shown here are from the spaTouch 1 Icon-Driven Panel, but the screens on the spaTouch 2 Panel are similar. The main difference is that the spaTouch 2 display is wider.



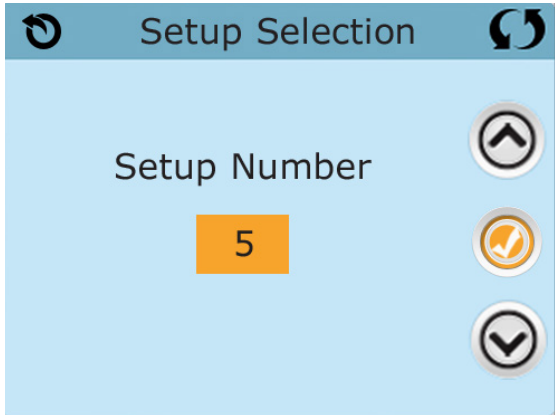




Once on the Setup Selection screen, press the Up or Down icon to select the desired Setup Number, then press the Check Mark icon to confirm and to have the spa restart.

After the system restarts, you may see a message that "The settings have been reset"; this is normal after changing Setups with DIP Switch 6 in the OFF position. Press "Clear" to dismiss this message.

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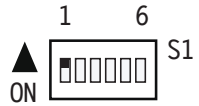
# Changing Software Setups with TP600/TP500/TP400/TP200

## Test Menu Access (S1, Switch 1 ON) *Service Technician ONLY.*

***DANGER! HIGH VOLTAGE WILL BE ACCESSIBLE! SERVICE TECHNICIAN ONLY!***

While the system is running, move DIP Switch 1 (on S1 on the Main circuit board) to ON.
The system will enter Test Mode.
Moving DIP Switch 1 to OFF will exit Test Mode.

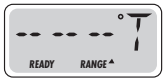
As soon as Switch #1 is placed in the ON position, the temperature will show "T" after it instead of F or C, indicating the System is in Test Mode




## Software Setups

Under the TEST Menu, the Setup screen will allow changing the Setup from 1 to any number established by the Manufacturer.
Changing the Setup may require wiring changes as well.


When the panel displays RUN PMPS PURG AIR, press any Temperature button ONCE to exit Priming Mode.
You should see "---T" where the T indicates the system is in Test Mode.




**Continued on Next Page.**

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# Changing Software Setups with TP600/TP500/TP400/TP200 Continued

NOTE: WHerever the below says Warm or Temp folowed by Light, on the TP500 press Menu instead of Warm or Temp followed by lighrt. And whenever the chart below says Light, on the TP500 press Menu insead of Light.

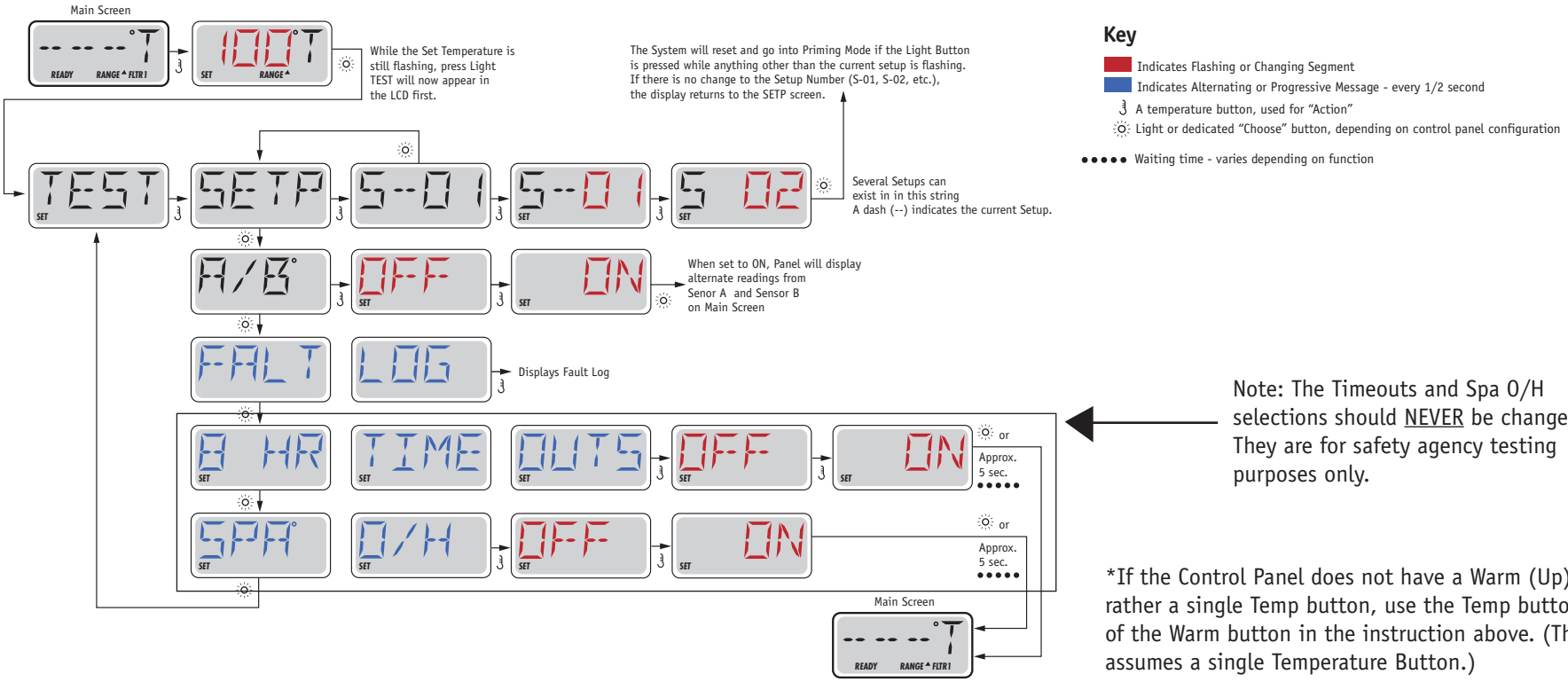
Immediately after exiting Priming Mode, press this sequence of buttons: Warm*, Light, Warm, Warm, Warm, Warm. Continue to press Warm until the diplay shows the Setup Number (S-01, S-02, etc.) you want to switch to. When the correct setup number is showing, press Light once, and the system will reset, using the newly-selected Setup from that point on.

Move DIP Switch 1 to the OFF position to take the spa out of Test Mode. °F or °C will replace °T.

**Using a permanent marker, write the Setup number on the Setup label mounted inside the system lid (right). This is very important to any service person in the future who may need to replace a circuit board or system and needs to change the Setup on a replacement part while in the field.**

NOTE: Changing the Setup may require wiring changes as well - refer to the wiring diagram or wiring diagram addendum.

THIS SYSTEM IS CONFIGURED AS SETUP #




**Key**

- Indicates Flashing or Changing Segment
- Indicates Alternating or Progressive Message - every 1/2 second
- A temperature button, used for "Action"
- Light or dedicated "Choose" button, depending on control panel configuration
- ••••• Waiting time - varies depending on function

Note: The Timeouts and Spa O/H selections should NEVER be changed. They are for safety agency testing purposes only.

*If the Control Panel does not have a Warm (Up) button, but rather a single Temp button, use the Temp button in place of the Warm button in the instruction above. (The flow chart assumes a single Temperature Button.)

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.



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# Equipment Expansion

## Expansion Features

| Control Connection | Default | Fuse |
|---|---|---|
| Relay 1 (J5) | None | N/A |

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# DIP Switch Functions

**Fixed-fuction DIP Switches**


| | |
|---|---|
| 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. |
| A5 | In “ON” position, enables Special Amperage Rule B. See Special Features section under Configuration Options for functionality with your system.<br>In “OFF” position, enables Special Amperage Rule A. |
| A6 | Persistent memory reset (Used when the spa is powering up to restore factory settings as determined by software configuration). |

**A2 and A3** work in combination to determine the number of high-speed devices and blowers that can run before the heater is disabled. i.e. A2 and A3 in the ON 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 all off = No heat with any high-speed pump or blower.*

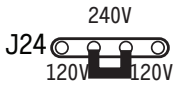
**Assignable DIP Switches**

| | |
|---|---|
| A4 | In “ON” position, enables a 5-minute cooldown for some gas heaters (Cooling Time B).<br>In “OFF” position, enables a 1-minute cooldown for electric heaters (Cooling Time A). |
| A7 | In “ON” position, Simplified Menus on TP200/TP400/TP500/TP600. Do not use graphic panels (TP700/740 or spaTouch™ family) with Simplified Menus.<br>In “OFF” position, Regular Menus on TP200/TP400/TP500/TP600. This setting is compatible with all panels. |

*Undesignated switches are not assigned a function.*

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# Jumper Definitions

| | | |
|---|---|---|
| **J109** | GFCI Test/Trip Enable/Disable<br>***Note:*** *This feature must be enabled in software as well.* | J109  |
| **J30** | Do Not Use | |
| **J31** | Jumper on 1 pin when heater voltage is 120V<br>Jumper on 2 pins when heater voltage is 240V | J31  |
| **J24** | Jumper on center two pins (240V) when heater voltage is 240V.<br>Two Jumpers installed; one on left 2 pins and one on right 2 pins (120V) when heater voltage is 120V. |  |

## Warning!

Setting DIP switches or jumpers 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.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# Replacement Parts

**PCBA:**

| | |
|---|---|
| Main PCBA: | 59498 |
| Expander PCBA: | N/A |

**HEATER(s):**

| | |
|---|---|
| Heater: | 58439R16 5.5kW 825Inc -- for integral heater only |
| | 58506R16 4.0kW 825Inc -- for integral heater only |
| Temp Sensor Kit: | 30344KIT 12-inch sensor -- for integral heater only |
| | 30382KIT 24-inch sensor -- for integral heater only |

**FUSES:**

| Part Number | Amperage* | Location |
|---|---|---|
| 30136 | 30A | F6 |
| 26983 | 1A | F4, F5 |
| 26982 | 0.16A | F3 |

* The amperages shown above are only intended for identifying fuses on our boards. They are not complete descriptions of those fuses. Please use the part numbers at the left to order fuses directly from Balboa.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# BP100 Configuration Options

## General Features

| Feature | Default | |
|---|---|---|
| Pump 1 in Filter Cycle (Circ Only) | No | |
| Pump 1 Low Timer | 30 Minutes | Applies in non-circ Setups (configurations) only |
| General Pump Timer | 15 Minutes | |
| Blower Timer | 15 Minutes | |
| Mister Timer | 15 Minutes | |
| Light Timer | 240 Minutes | |
| Circ (when enabled) | Programmable + Polling | |
| Cleanup Cycle | *30 Minutes* | |
| Cleaup as Preference setting | *Yes* | |
| Ozone | With Heater Pump* | |
| Ozone Suppression | OFF | |
| Pump Purge | 60 Seconds | |
| Blower Purge | 30 Seconds | |
| Mister Purge | 5 Seconds | |
| Purge Type | Serial - Pumps at lowest speed | |

* The heater Pump can be either a Circ Pump or Pump 1 Low.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# BP100 Configuration Options

## Temperature Features

| Feature | Default |
|---|---|
| Temperature Display | °F |

*All temperatures must be specified in °F. The system converts °F to °C dynamically. If Celsius is required for default settings, choose a desired °C value that (after rounding) corresponds to a Fahrenheit value.*

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| °C | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| °F | 39 | 41 | 43 | 45 | 46 | 48 | 50 | 52 | 54 | 55 | 57 | 59 | 61 | 63 | 64 | 66 | 68 | 70 | 72 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| °C | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| °F | 73 | 75 | 77 | 79 | 81 | 82 | 84 | 86 | 88 | 90 | 91 | 93 | 95 | 97 | 99 | 100 | 102 | 104 |

| | |
|---|---|
| Hi-Range Min. Set Temp | 80°F |
| Hi-Range Max. Set Temp | 104°F |
| Hi-Range Default Temp* | 100°F |
| Lo-Range Min. Set Temp | 50°F |
| Lo-Range Max. Set Temp | 99°F |
| Lo-Range Default Temp* | 70°F |
| Freeze Threshold | 44°F |
| Freeze Type | Rotating - Pumps at Lowest Speed |
| Temp Lock Type | Temp + Settings |

**May be changed by end-user (if enabled)*

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# BP100 Configuration Options

## Time Features

| Feature | Default |
|---|---|
| Time Format* | 12 Hour |
| Filter 1 Start Hour* | 20:00 (8:00 PM) |
| Filter 1 Duration* | 2 Hours |
| Filter Cycle 2 Default* | OFF |
| Filter 2 Start Hour* | 08:00 (8:00 AM) |
| Filter 2 Duration* | 15 Minutes |
| Light Cycle | Disabled |
| Light Cycle Default* | OFF |
| Light Cycle Start Hour* | 21:00 (9:00 PM) |
| Light Cycle Duration* | 15 Minutes |
| Cooling Time A | 1 Minute |
| Cooling Time B | 5 Minutes |

**May be changed by end-user (if enabled)*

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.



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# BP100 Configuration Options

## Reminder Features

| Feature | Default |
|---|---|
| Reminders Shown* | *Yes* |
| Check pH | *OFF* |
| Check Sanitizer | *OFF* |
| Clean Filter | 30 Days |
| Test GFCI | OFF |
| Drain Water | *100 Days* |
| Change Cartridge | OFF |
| Clean Cover | *OFF* |
| Treat Wood | *OFF* |
| Change Filter | 365 Days |

**May be changed by end-user (if enabled)*

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# BP100 Configuration Options

## Special Features

| Feature | Default |
|---|---|
| Special Amperage Rule A | No Limitation |
| Special Amperage Rule B | No Limitation |
| Drain Mode | Disabled |
| Demo Mode | Disabled |
| GFCI Trip | Enabled |
| Automatic GFCI Test | Disabled |
| Ozone Slaved to Heater Pump | *Yes* |
| Dual Voltage Heater | Always Input Voltage |
| Safety Suction | Disabled |
| Menu Style | Standard Menus when DIP switch A7 is OFF.<br>Simplified Menus when DIP switch A7 is ON.. |

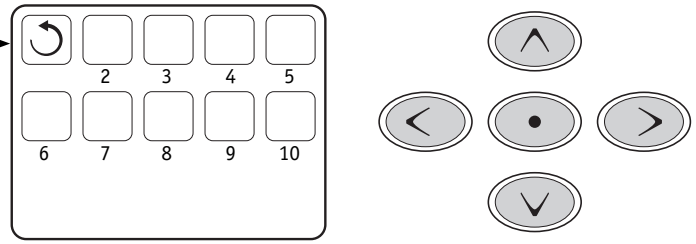
Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# TP900 Panel Configuration

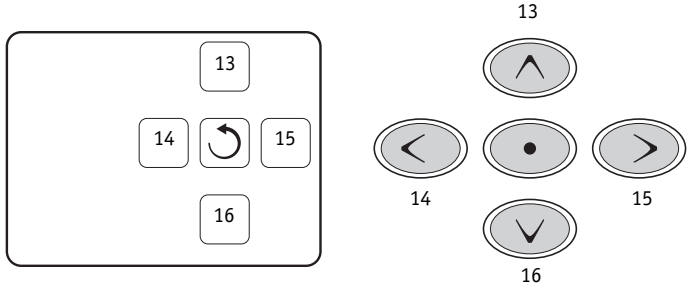
## Button Layout Table

| Button # | Setup 1 | Setup 2 | Setup 3 |
|---|---|---|---|
| 1 | N/A | N/A | N/A |
| 2 | Jets 1 | Jets 1 | Light |
| 3 | Light | Light | Invert |
| 4 | Invert | Invert | (Circ Icon) |
| 5 | (Circ Icon) | Undefined | Undefined |
| 6 | Undefined | Undefined | Undefined |
| 7 | Undefined | Undefined | Undefined |
| 8 | Undefined | Undefined | Undefined |
| 9 | Undefined | Undefined | Undefined |
| 10 | Undefined | Undefined | Undefined |
| 11 | N/A | N/A | N/A |
| 12 | N/A | N/A | N/A |
| 13 | Jets 1 | Jets 1 | Undefined |
| 14 | Undefined | Undefined | Undefined |
| 15 | Light | Light | Undefined |
| 16 | Invert | Invert | Undefined |

### Spa Screen




### Shortcuts Screen




*A Circ Icon will appear when a Circ Pump is configured*

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# TP800 Panel Configuration

## Button Layout Table

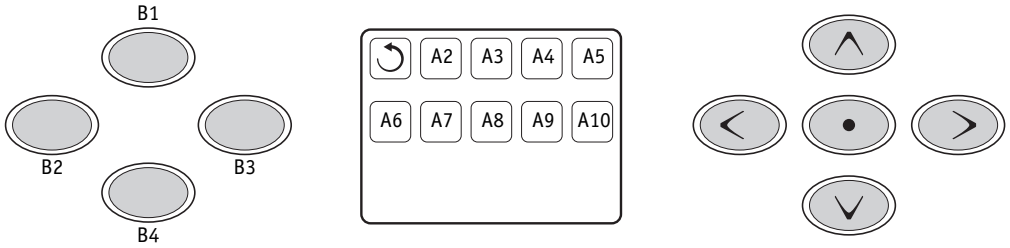
| Feature # | Setup 1 | Setup 2 |
|---|---|---|
| **A1** | N/A | N/A |
| **A2** | Jets 1 | Jets 1 |
| **A3** | Light 1 | Light 1 |
| **A4** | Invert | Invert |
| **A5** | (Circ Icon) | Undefined |
| **A6** | Undefined | Undefined |
| **A7** | Undefined | Undefined |
| **A8** | Undefined | Undefined |
| **A9** | Undefined | Undefined |
| **A10** | Undefined | Undefined |
| **A11** | N/A | N/A |
| **A12** | N/A | N/A |
| **A13** | Undefined | Undefined |
| **A14** | Undefined | Undefined |
| **A15** | Undefined | Undefined |
| **A16** | Undefined | Undefined |
| **B1** | Jets 1 | Jets 1 |
| **B2** | Undefined | Undefined |
| **B3** | Undefined | Undefined |
| **B4** | Light 1 | Light 1 |

TP800 is not officially supported in Setup 3.

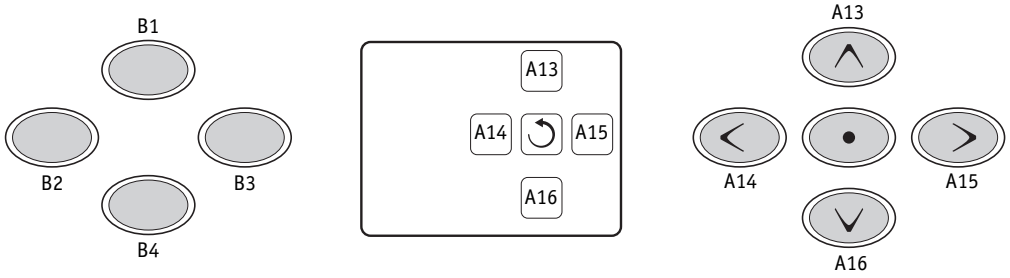
Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.

# TP800 Panel Configuration

## Spa Screen




## Shortcuts Screen




***Note:*** *Buttons 11 and 12 are not used in this configuration.*

*Button 1 is fixed.*

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending.
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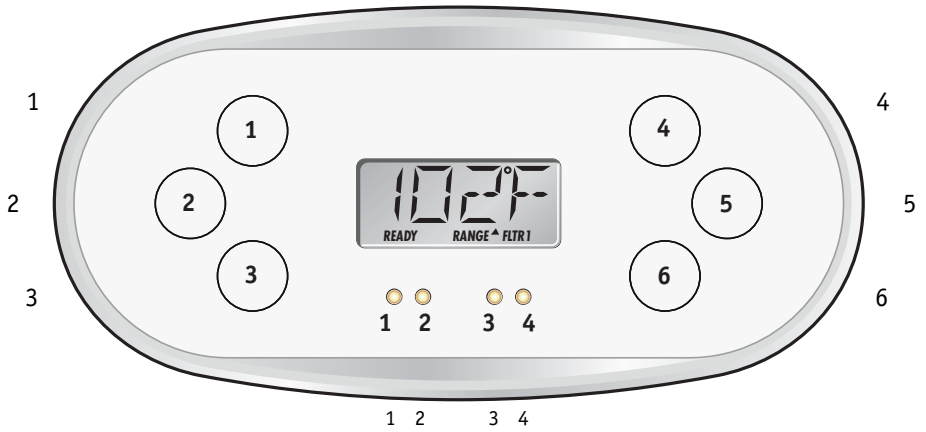
# TP600 Panel Configuration

## Button Layout Table

| Button # | Setup 1 & 2 |
|---|---|
| **1** | Jets 1 |
| **2** | Undefined |
| **3** | Invert |
| **4** | Up |
| **5** | Light 1 |
| **6** | Down |
| **LED 1** | Jets 1 |
| **LED 2** | Undefined |
| **LED 3** | Light 1 |
| **LED 4** | Heat On |

TP600 is not officially supported in Setup 3.




**TP600**

55676-XX

No Overlay

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending.
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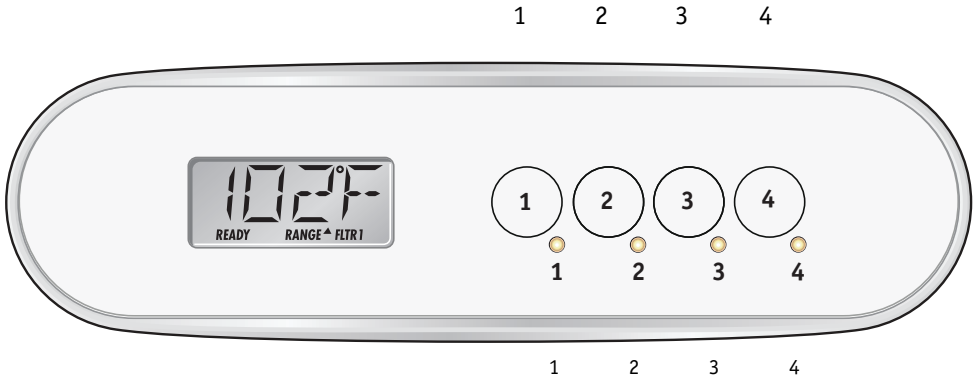
# TP400/TP200 Panel Configuration

## Button Layout Table for TP400T/TP200T

| Button # | Setup 1 & 2 | Setup 3 |
|---|---|---|
| **1** | Temperature | Up |
| **2** | Jets 1 | Down |
| **3** | Light 1 | Light 1 |
| **4** | Undefined | Undefined |
| **LED 1** | Heater ON | Heater ON |
| **LED 2** | Jets 1 ON | Undefined |
| **LED 3** | Light ON | Light ON |
| **LED 4** | Undefined | Undefined |




### TP400T US

50380-XX includes overlay PN 12511

## Button Layout Table for TP400W/TP200W

| Button # | All Setups |
|---|---|
| **1** | Up |
| **2** | Down |
| **3** | Light 1 |
| **4** | Jets 1 |
| **LED 1** | Heater ON |
| **LED 2** | Undefined |
| **LED 3** | Light ON |
| **LED 4** | Jets 1 ON |

The Jets 1 button is not used in Setup 3.


### TP200T

57281-XX with no overlay

57282-XX includes overlay PN 17325

### TP400W US

50384-XX includes overlay PN 12510

### TP200W

57290-XX with no overlay

57283-XX includes overlay PN 17374

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2009 Balboa Water Group.