## **BP501G3 Tech Sheet**

**Customer:** Balboa Water Group

**Part Number:** 56582-04 800 Incoloy 5.5 kW

56584-04 Titanium 5.5 kW 56901-02 800 Incoloy 4.0 kW

Custom Box Overlay

Box Overlay Part Number N/A

UL System Model: BP501-BP501G3-BU
Software Version ID: M100\_201 V44.0

Software Version: 44.0

File Name: BP501\_44.0\_BP501G3\_TP9.hex

Configuration Signature: 749FE6DA

Eng. Project Number: 5264



#### Control Panels (See later pages for more information):

spaTouch™2 Any version (version 2.0 or later required for bba™2 fully integrated functionality; version 2.19 or later required for CHROMAZON∃™ support)

Icon spaTouch™ Any version (version 3.36 or later required for bba™2 fully integrated functionality)

Menued spaTouch<sup>™</sup> Any version (version 2.8 or later required for bba<sup>™</sup>2 integrated functionality)

TP900 Version 3.1 and later (Version 3.13 or later required for bba™)

TP800 Version 3.1 and later (Version 3.13 or later required for bba™; version 4.11 or later required for bba™2 integrated functionality)

TP600 Version 2.7 and later (Version 2.12 or later required for bba™/bba™2 On/Off control via menu)

TP400T US Version 2.7 and later (TP400T CE may be used) (Version 2.12 or later required for bba<sup>™</sup>/bba<sup>™</sup>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<sup>™</sup>/bba<sup>™</sup>2 On/Off control via menu)



## **System Revision History**

Part #	EPN	Date	Originator	Changes Made
56582 56583 56584	4195	01-15-14	BWG	BP501G3 initial draft. Adds GFCI Trip (but not GFCI Automatic Test). Updated to latest software version, adding topside-intergrated bba™ support.
56582-01 56583-01 56584-01	4503	04-08-15	BWG	Add TP900 support.
"	4576	08-12-15	BWG	Clarify that all pumps can be 12V max.
56582-02 56583-02 56584-02	4776	10-10-16	BWG	Updated to latest software version, adding topside-intergrated bba™2 support. Released to production.
56582-03 56584-03 56901-01	5007	08-16-18	BWG	Redesigned BP501 board. (56583-XX not updated because it has been discontinued.)
56582-04 56584-04 56901-02	5264	11-27-19	BWG	Updated software to support CHROMAZON3™ & M8.

bba™ & bba™2 (Balboa Bluetooth Amp) connection is documented seperately.

bba<sup>™</sup> is integrated into graphic display panels (TP800, TP900 and spaTouch<sup>™</sup>). With TP600/TP400, use the "BT" entry on the menu to toggle bba<sup>™</sup> power On/Off. bba<sup>™</sup>2 is integrated into graphic display panels (TP800, TP900 and spaTouch<sup>™</sup>). With TP600/TP400, use the "BT" entry on the menu to toggle bba<sup>™</sup>2 power On/Off.



## **Basic Functions Setup 1 - 8**

#### **Power Requirements:**

240VAC, 50/60Hz\*, 48A, Class A GFCI-protected service (Circuit Breaker = 60A max.), 4 wires [hot, hot, neutral, ground]
120/240VAC, 50/60Hz\*, 16/40A, Class A GFCI-protected service (Circuit Breaker = 20 /50A max.) - Setup 8 ONLY, 3 or 4 wires [hot, hot (optional), neutral, ground].

#### **System Ouputs:**

Pump 1	240VAC*	2-Speed	12A max	15-minute timer				
		This is the heater pump Must deliver 20 GPM through heater						
Pump 2	240VAC	2-Speed	12A max	15-minute timer				
		1-Speed in Setups 3, 4, & 7 Unused in Setups 6 & 8						
Pump 3	240VAC	1-Speed	12A max	15-minute timer				
		Used in Setups 1 & 3 only						
Blower	240VAC	1-Speed Used in Setu		15-minute timer				
0zone	240VAC*		.5A max	Slaved to Pump 1 low				
Spa Light	10VAC	0n/0ff	2A** max	240-minute timer.				
A/V (Stereo)	120VAC	Hot	4A max	Always on				
Heater	5.5kW @ 240	OVAC max						

Disconnect slip terminal with green wires from J52 prior to performing HiPot test. Failure to disconnect may cause a false failure of the test. Reconnect terminal to J52 after successful completion of HiPot test.

With 120VAC power input (for Setup 8 only), Pump 1 and Ozone must be set to 120VAC by moving wires attached to J50 and J51 to area 1 (Neutral).



<sup>\*</sup> 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.

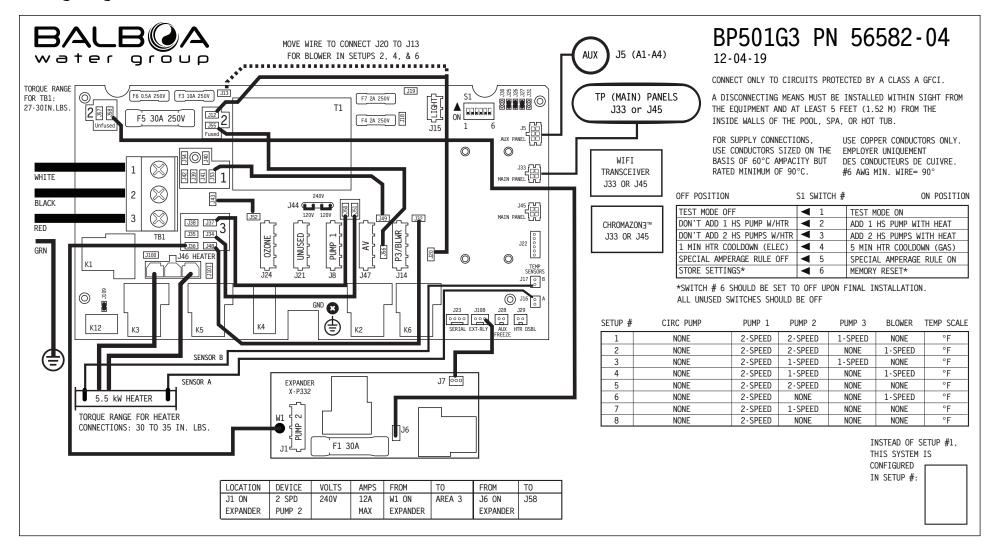
**HiPot Testing Note:** 

<sup>\*</sup>Pump 1 and Ozone must be the same voltage.

<sup>\*\* 2</sup>A max limit is shared by On/Off Spa Light and CHROMAZON3™.

## **Hardware Setup**

#### **Wiring Diagram**



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.



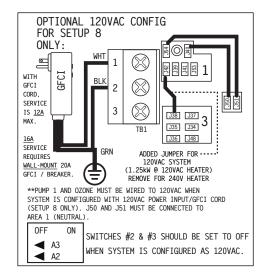
## **Setup Reference Table**

Setup #	Circ Pump	Pump 1	Pump 2	Pump 3	Blower	Temp Scale
1	None	2-Speed	2-Speed	1-Speed	None	°F
2	None	2-Speed	2-Speed	None	1-Speed	°F
3	None	2-Speed	1-Speed	1-Speed	None	°F
4	None	2-Speed	1-Speed	None	1-Speed	°F
5	None	2-Speed	2-Speed	None	None	°F
6	None	2-Speed	None	None	1-Speed	°F
7	None	2-Speed	1-Speed	None	None	°F
8	None	2-Speed	None	None	None	°F

System (and any replacement board) is shipped in Setup 1

#### As shown on additional wiring diagram sections:

LOCATION	DEVICE	VOLTS	MAX AMPS	FROM	T0		
J8	2-SP PUMP 1	240V**	12A MAX				
J14	1-SP PUMP 3	240V	12A MAX	J32	AREA 3		
J14	BLOWER OPT	240V	4A MAX	J32	AREA 3		
J15	SPA LIGHT	10V	2A*				
J21							
J24	OZONE	240V**	0.5A				
	P1/OZONE LINE	1 CONNEC	TION	J50,J51	AREA 3		
J47	AV 120V 4A J49 AREA 1						
J46	HEATER	240V	5.5 kW				





## **Changing Software Setups with spaTouch™ Icon-Driven Panels**

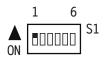
#### Test Menu Access (S1, Switch 1 ON) Service Technician ONLY.

#### 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.

# ON ► 1 10 S1



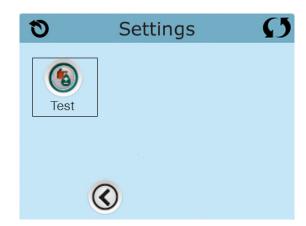
wider.

#### **To Change Software Setups:**

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



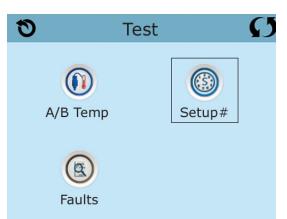




The example screens shown here are from the

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



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.



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.

## Changing Software Setups with TP800 / TP900 / spaTouch™ Menued Panel

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

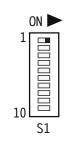
#### DANGER! HIGH VOLTAGE WILL BE ACCESSIBLE! SERVICE TECHNICIAN ONLY!

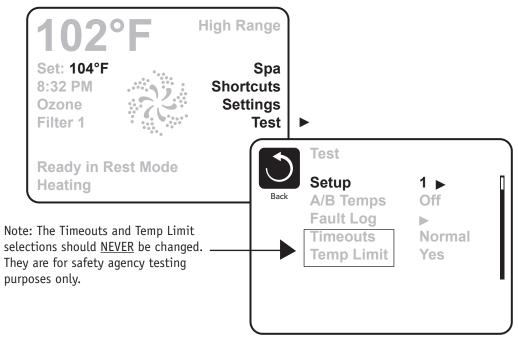
While the system is running, move DIP Switch 1 (on S1 on the Main circuit board) to ON. The system will enter Test Mode.

Moving DIP Switch 1 to OFF will exit Test Mode.

#### **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.







## **Changing Software Setups with TP600 / TP400**

#### 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.

**You will have 1 minute** to complete the setup change after you manually exit Priming Mode. (Once familiar with the process, the Setup change should take less than 15 seconds.)











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.



## **Changing Software Setups with TP600 / TP400 Continued**

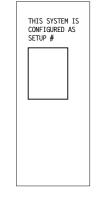
Again, You will have 1 minute to complete the setup change after you manually exit Priming Mode.

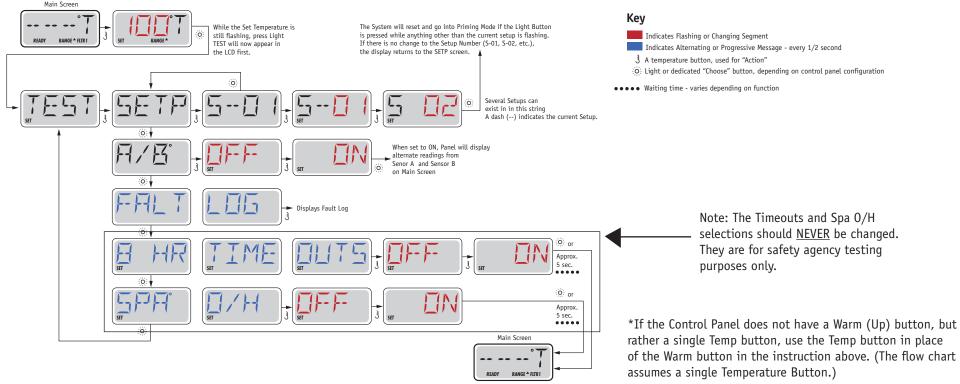
Immediately after exiting Priming Mode, press this sequence of buttons: Warm\*, Light, Warm, Warm, Warm, Warm. Continue to press Warm until the diplay shows the Setup Number (S-01, S-02, etc.) you want to switch to. When the correct setup number is showing, press Light once, and the system will reset,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





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 2014 Balboa Water Group.



## **Equipment Expansion**

**Expansion Features Control Connection** 

Default Fuse

2/1-Speed Pump 2

Relay 1/2 (J108)

30A



### **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.

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 heat 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).

In "OFF" position, enables a 1-minute cooldown for electric heaters (Cooling Time A).

Undesignated switches are not assigned a function.



## **Jumper Definitions**

J109	GFCI Test/Trip Enable/Disable  Note: This feature must be enabled in software as well.	J109 ⊱
J30	Do Not Use	
J31	Non Applicable on UL models (Used on CE models only)	J31 🎉
J29	Heater Disable Switch Connection. If J29 is shorted by any means, the heater will not run until J29 is no longer shorted.  If J29 is shorted during power-up "J29" will appear on the panel.  The message can be dismissed with a button press, and is the only control panel notification of J29 being shorted.  No message is displayed if J29 is shorted after power-up, but the heater will not run until J29 is no longer shorted.  J29 expects a switch closure (not a voltage) as the command signal.	J29 🕃
	In some areas, a local power company may offer discounts based on voluntary "power shedding" devices that may be installed  Heater Type Settings.	
323, 320, 327	Note: Factory Configured do not change.	J25 <b>E</b> J26
J44	Jumper on center two pins (230V) when no neutral wire is used (240V-dedicated).  Two Jumpers installed; one on left 2 pins and one on right 2 pins (115V) when neutral wire is used.	J44 230V 115V 115V

#### 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.



## **Replacement Parts**

PCBA:

Main PCBA: 56961-01 Expander PCBA: 59097

**HEATER(s):** 

Plug + Click Heater Kit: 58306 5.5kW 800Inc

58308 5.5kW Titanium

58303 4.0kW 800Inc

Temp Sensor Kit: 53605

CABLES: 21302 Jumper 120V Heater

**FUSES:** 

Part Number Amperage Location
30136 30A F5, F1 (Expander)

26307 2A F4, F7 26905 0.5A SLO F6 26904 10A F3



#### **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	
Cleanup as Preference setting	Yes	
0zone	With Heater Pump*	
Ozone Suppression	0FF	
Pump Purge	60 Seconds	
Blower Purge	30 Seconds	
Mister Purge	5 Seconds	
Purge Type	Serial - Pumps at lowest	t speed



<sup>\*</sup> The heater Pump can be either a Circ Pump or Pump 1 Low.

#### **Temperature Features**

Feature Display Pefault

Temperature Display Perature Dis

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	<i>57</i>	59	61	63	64	66	68	70	72
°C	23	24	25	26	27	28	29	30	31	<i>32</i>	33	34	<i>35</i>	36	<i>37</i>	38	39	40	
°F	73	<i>75</i>	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°
Hi-Range Default Temp*	100°
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



<sup>\*</sup>May be changed by end-user (if enabled)

#### **Time Features**

Feature	Default
Time Format*	12 Hour
Filter 1 Start Hour*	20.00 (8.00 BM)
Fitter 1 Start Hour	20:00 (8:00 PM)
Filter 1 Duration*	2 Hours
	0
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



<sup>\*</sup>May be changed by end-user (if enabled)

#### **Reminder Features**

Feature	Default
Reminders Shown*	Yes
Check pH	0FF
Check Sanitizer	0FF
Clean Filter	30 Days
Test GFCI	65 Days
Drain Water	100 Days
Change Cartridge	OFF
Clean Cover	0FF
Treat Wood	0FF
Change Filter	365 Days



<sup>\*</sup>May be changed by end-user (if enabled)

No Limitation

#### **Special Features**

Special Amperage Rule B

Feature Default
Special Amperage Rule A 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



## **TP900 Panel Configuration**

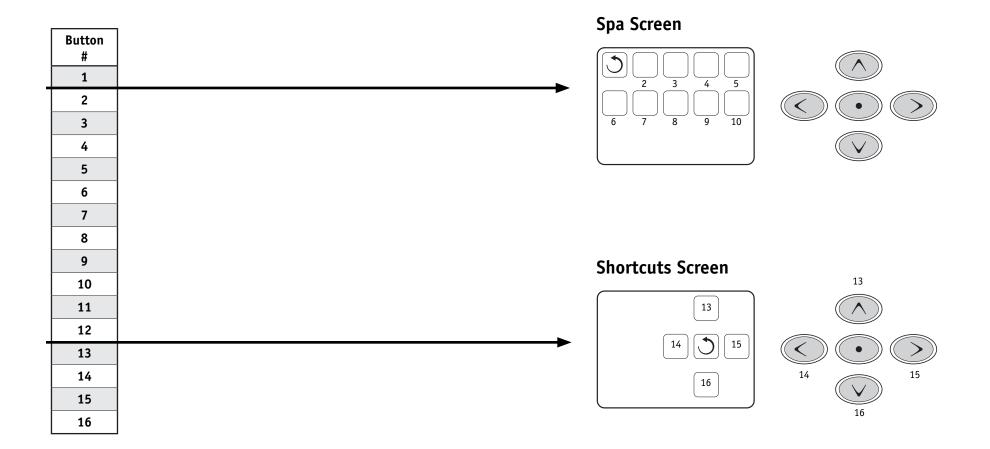
#### **Button Layout Table**

Feature	Setups 1 & 3	Setups 2 & 4	Setups 5 & 7	Setup 6	Setup 8
#					
A1	N/A	N/A	N/A	N/A	N/A
A2	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
А3	Jets 2	Jets 2	Jets 2	Blower	Light 1
A4	Jets 3	Blower	Light 1	Light 1	Invert
A5	Light 1	Light 1	Invert	Invert	Undefined
A6	Invert	Invert	Undefined	Undefined	Undefined
A7	Undefined	Undefined	Undefined	Undefined	Undefined
A8	Undefined	Undefined	Undefined	Undefined	Undefined
A9	Undefined	Undefined	Undefined	Undefined	Undefined
A10	Undefined	Undefined	Undefined	Undefined	Undefined
A11	N/A	N/A	N/A	N/A	N/A
A12	N/A	N/A	N/A	N/A	N/A
A13	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
A14	Jets 2	Jets 2	Jets 2	Blower	Undefined
A15	Jets 3	Blower	Undefined	Undefined	Undefined
A16	Light 1	Light 1	Light 1	Light 1	Light 1

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



## **TP900 Panel Configuration**



## **TP800 Panel Configuration**

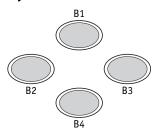
#### **Button Layout Table**

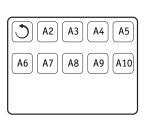
Feature #	Setups 1 & 3	Setups 2 & 4	Setups 5 & 7	Setup 6	Setup 8
A1	N/A	N/A	N/A	N/A	N/A
A2	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
А3	Jets 2	Jets 2	Jets 2	Blower	Light 1
A4	Jets 3	Blower	Light 1	Light 1	Invert
A5	Light 1	Light 1	Invert	Invert	Undefined
A6	Invert	Invert	Undefined	Undefined	Undefined
A7	Undefined Undefined		Undefined	Undefined	Undefined
A8	Undefined Undefined		Undefined	Undefined	Undefined
A9	Undefined Undefined		Undefined Undefined		Undefined
A10	Undefined Undefined		Undefined	Undefined	Undefined
A11	N/A	N/A	N/A	N/A	N/A
A12	N/A	N/A	N/A	N/A	N/A
A13	Undefined	Undefined	Undefined	Undefined	Undefined
A14	Undefined	Undefined	Undefined	Undefined	Undefined
A15	Undefined	Undefined	Undefined	Undefined	Undefined
A16	Undefined	Undefined	Undefined	Undefined	Undefined
B1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
B2	Jets 2	Jets 2	Jets 2	Blower	Undefined
В3	Jets 3	Blower	Undefined	Undefined	Undefined
B4	Light 1	Light 1	Light 1	Light 1	Light 1

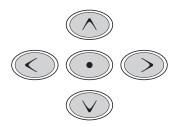


## **TP800 Panel Configuration**

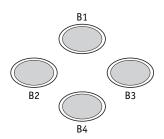
#### **Spa Screen**

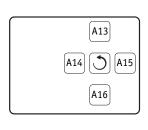


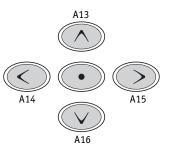




#### **Shortcuts Screen**







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

Button 1 is fixed.

Panel Part Number 50204-XX

Overlay Part Number N/A

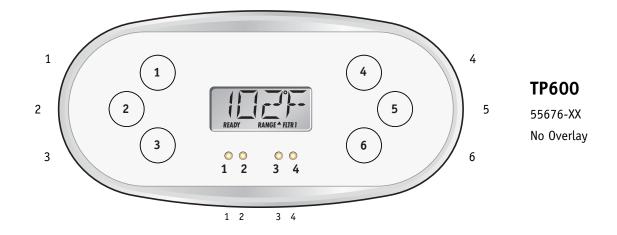


## **TP600 Panel Configuration**

#### **Button Layout Table**

Template 56377 10-05-12

Button #	Setups 5 & 7	Setup 6	Setup 8	Setups 1 & 3	Setups 2 & 4
1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
2	Jets 2	Blower	Undefined	Jets 2	Jets 2
3	Invert	Invert	Invert	Jets 3	Blower
4	Up	Up	Up	Up	Up
5	Light 1	Light 1	Light 1	Light 1	Light 1
6	Down	Down	Down	Down	Down
LED 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
LED 2	Jets 2	Blower	Undefined	Jets 2	Jets 2
LED 3	Light 1	Light 1	Light 1	Light 1	Light 1
LED 4	Heat On	Heat On	Heat On	Heat On	Heat 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.

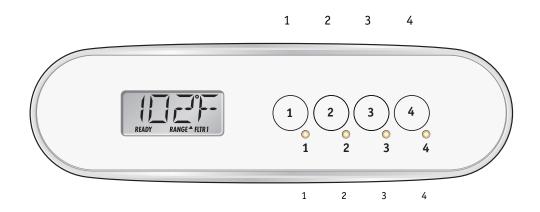


## **TP400 Panel Configuration**

#### **Button Layout Table for TP400T**

Button #	Setups 5 & 7	Setup 6	Setup 8
1	Temperature	Temperature	Temperature
2	Jets 1	Jets 1	Jets 1
3	Light 1	Light 1	Light 1
4	Jets 2	Blower	Undefined
LED 1	Heater ON	Heater ON	Heater ON
LED 2	Jets 1 ON	Jets 1 ON	Jets 1 ON
LED 3	Light ON	Light ON	Light ON
LED 4	Jets 2 ON	Blower ON	Undefined

TP400T is not supported in Setups 1-4 (that have either Pump 3 or both Pump 2 and Blower).



#### TP400T US

50380-XX

Includes overlay PN 12511.

#### **Button Layout Table for TP400W**

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	

Use the TP400W for setups that only have one pump (No Blower or Pump 2 or Pump 3).

#### TP400W US

50384-XX

Includes overlay PN 12510.

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.



#### **Auxiliary Panel Features on Bank 1\***

Feature	Default
Aux Button A1	Jets 1
Aux Button A2	Jets 2
Aux Button A3	Jets 3 in Setups 1 & 3 Blower in Setups 2, 4 & 6 Undefined in Setups 5, 7 & 8
Aux Button A4	Light

\*Bank 1 consists of J5 on the Main Circuit Board.

Aux Connection Splitter PN 25257 may be required.

Buttons that are assigned to equipment that is not defined in a Setup will not do anything in that Setup.



#### **Auxiliary Panel Features**

#### AX10 Panels on Bank 1\*

A1, AX10A1 No 0/L 52803
A2, AX10A2 No 0/L 52804
A3, AX10A3 No 0/L 52805 ►
A4, AX10A4 No 0/L 52806



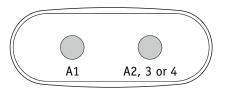
Call Customer Service for additional information about Auxiliary Panels.

\*Bank 1 consists of J5 on the Main Circuit Board.

Aux Connection Splitter PN 25257 may be required.

#### AX20

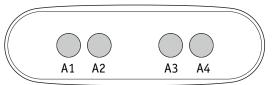
AX20 A1A2	No O/L	52800
AX20 A1A3	No O/L	52801
AX20 A1A4	No O/L	52802



AX20 Auxiliary Panel plugged into Bank 1 will operate A1 + A2, A3 or A4.

#### **AX40**

AX40 No 0/L 52799



AX40 Auxiliary Panel plugged into Bank 1 will operate A1 + A2, A3 and A4.

