

BP21MS3B Tech Sheet

Customer: Balboa Water Group

Part Number: 56634-03 825 Incoloy 3kW
56635-03 Titanium 3kW

Custom Box Overlay
Box Overlay Part Number N/A

CE System Model: BP21-BP21MS3B-RCA3.0K
Software Version ID: M100_225 V65.0
Software Version: 65.0
File Name: BP2100_65.0_BP21MS3B_12SU.hex
Configuration Signature: 52FCFOCD

Eng. Project Number: 5663

Control Panels:

spaTouch™ 3	Any version
spaTouch™ 2	Any version (version 2.0 or later required for bba™ 2 fully integrated functionality)
Icon spaTouch™	Any version (version 3.36 or later required for bba™ 2 fully integrated functionality)
Menued spaTouch™	Any version (version 2.8 or later required for bba™ 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)
TP700	Any version
TP600*	Version 2.7 and later
TP400T CE*	Version 2.7 and later (TP400T US should <u>not</u> be used)

* TP600 and TP400T CE only supported in certain Setups. See later pages.



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 2012 Balboa Water Group.

BALBOA
water group

System Revision History

Part #	EPN	Date	Originator	Changes Made
ZT000093	4280	05-06-14	BWG	New generic MicroSilk® system, with 3 Pumps, plus optional Blower and optional Circ.
56633 56634 56635	4280	06-14-14	BWG	Approved by JP Parent for production.
56633-01 56634-01 56635-01	4776	11-28-16	BWG	Added 4 Setups from BP21MS2B. Updated to latest software version, adding topside-intergrated bba™2 support. Released to production.
56634-02 56635-02	5098	04-28-21	BWG	Redesigned BP2100 board + updated software to support CHROMAZONΞ™ & M8. Discontinue 800 Incoloy system version (56633-XX).
56634-03 56635-03	5663	03-21-23	BWG	Update to support Clim8zone™ heat pump. Update board over-voltage protection.

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

bba™2 / bba™3 is integrated into graphic display panels (TP700, TP800, TP900 and spaTouch™).

With TP600/TP400, use the "BT" entry on the menu to toggle bba™2 / bba™3 power On/Off.

Basic Functions Setup 1 - 12

Power Requirements:

Single Service [3 wires (line, neutral, ground)]

230VAC, 50/60Hz*, 1p, 32A, (Circuit Breaker rating = 40A max.)

Dual Service N/A

3-Service [5 wires (line 1, line 2, line 3, neutral, ground)]

230VAC line-to-neutral**, 50/60Hz*, 3p, 16A, (Circuit Breaker rating = 20A max each phase line.)

* 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.

** 3-phase service measured line-to-line will read about 400V, but BP systems do not use it line-to-line.

IMPORTANT - Service must include a neutral wire, with a line to neutral voltage of 230VAC.

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.

In 3x16A Service:

Pump 2 (if any) and Blower (if any) are on one service.

Pump 3 (if any), MicroSilk®, and the heater are on another service.

Everything else is on the remaining service.

Basic Functions Setup 1 - 12

System Outputs:

Pump 1	230VAC	2-Speed 1-Speed in Setups 4, 5, 9 - 12	11A max*	15-minute timer for High Speed, 15-Minute timer for Low Speed
		This is the heater pump in Setups 6-8 Must deliver 20 GPM through heater		
Pump 2	230VAC	2-Speed 1-Speed in Setups 2 - 5, 7 - 10 Unused in Setups 11 & 12	11A max*	15-minute timer
Pump 3	230VAC	1-Speed Unused in Setups 9 - 12	8A max*	15-minute timer
MicroSilk®	230VAC	1-Speed	8A max*	30-minute timer
Blower	230VAC	1 Speed Unused in Setups 1, 3, 5, 6, 8, 10 & 12	5A max*	15-minute timer
Circ Pump	230VAC	1-Speed This is the heater pump in Setups 1 - 5, 9 - 12 Must deliver 20 GPM through heater	2A max*	Programmable Filtration Cycles + Polling
Ozone	230VAC		.5A max*	Slaved to Circ Pump in Setups 1 - 5, 9 - 12 Independent in Setups 6 - 8
Spa Light	10VAC	On/Off	2A** max	240-minute timer.
AV + C8Z***	230VAC	Hot	2A + 8A max	Always on
Heater	3.0kW @ 240VAC max			

* These are individual maximums but depending on the electrical services they may need to be reduced.

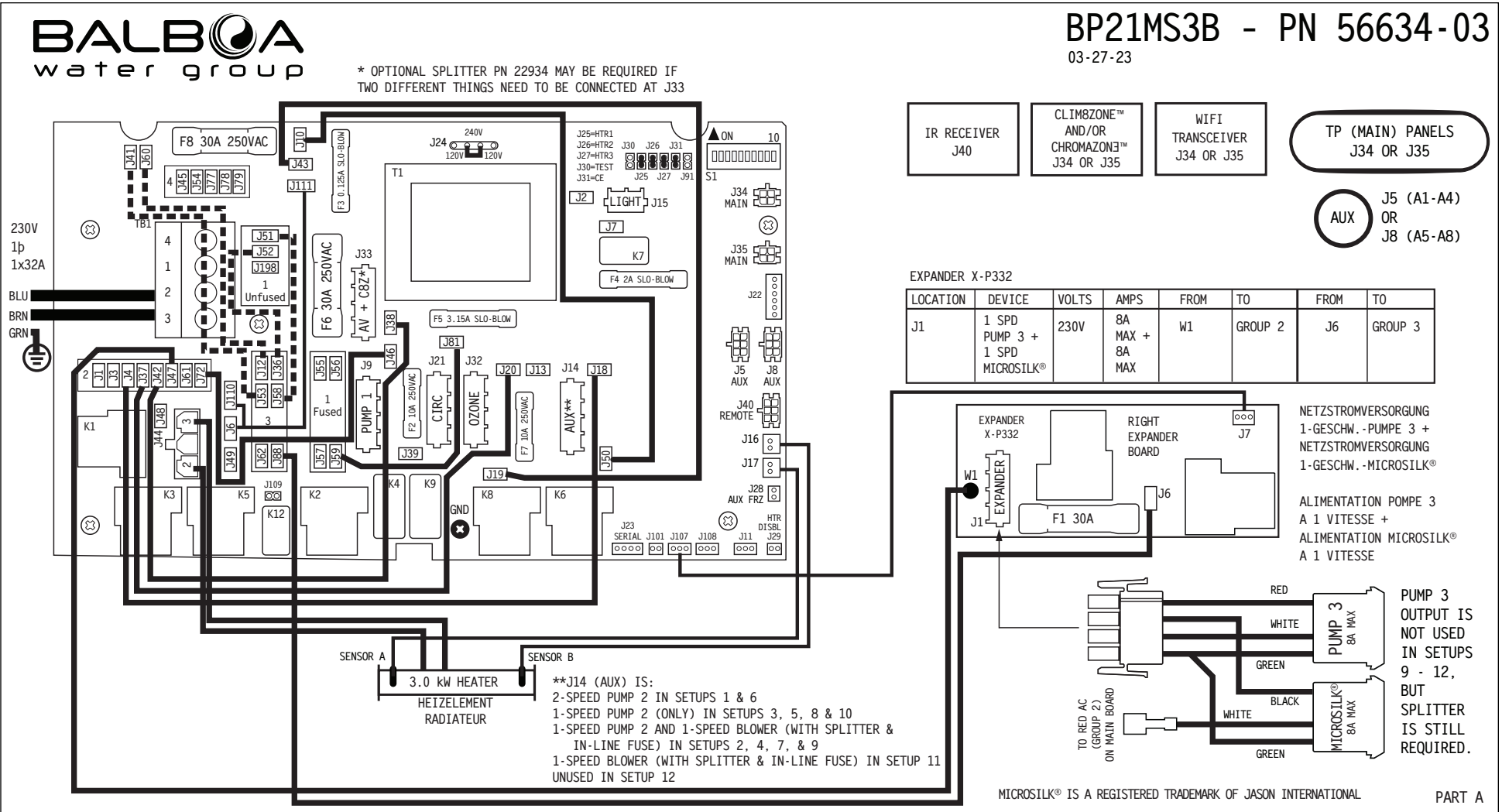
** 2A max limit is shared by On/Off Spa Light and CHROMAZON™.

*** Optional splitter PN 22934 can be used to connect two things, such as an audio device and Clim8zone™(C8Z), to J33.

MicroSilk® is a registered trademark of Jason International

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.

© Copyright 2012 Balboa Water Group.

BALBOA
water group

Hardware Setup

Settings

SINGLE SERVICE 230V 1p / 1x32A, THREE-SERVICE 230V 3p / 3x16A

LOCATION	DEVICE	MAX AMPS
J9	NETZSTROMVERSORGUNG 2/1-GESCHW. -PUMPE 1 ALIMENTATION POMPE 1 A 2/1 VITESSES 2/1-SPD PUMP 1	11A†
J14	2/1-SPD PUMP 2 + BLOWER NETZSTROMVERSORGUNG 2/1-GESCHW. -PUMPE 2 + SPRUDELGEBLASE ALIMENTATION POMPE 2 A 2/1 VITESSES + VENTILATEUR	11A† + 5A†
J15	10V BELEUCHTUNG ECLAIRAGE BAIN HYDRO SPA LIGHT	2A* (@10V)
J21	KREISLAUF PUMPE POMPE DE CIRCULATION CIRC PUMP	2A
J32	OZONGENERATOR GENERATOROZONE OZONE GENERATOR	0.5A
J33	AV + CLIMBZONE™ (C8Z)	2A + 8A
J44	HEATER	3.0kW

† THESE ARE INDIVIDUAL MAXIMUMS, BUT THEY MAY NEED TO BE REDUCED BASED ON AVAILABE SERVICE RATING AND ON HOW MUCH EQUIPMENT IS USED.

* 2A LIMIT IS SHARED BY J15 SPA LIGHT AND CHROMAZONE™

SETUP #	CIRC PUMP	PUMP 1	PUMP 2	PUMP 3	MICROSILK®	BLOWER	TEMP SCALE
1	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	2-SPEED	1-SPEED	1-SPEED	NONE	°C
2	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	1-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
3	PROGRAMMABLE FILTRATION + POLLING	2-SPEED	1-SPEED	1-SPEED	1-SPEED	NONE	°C
4	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	1-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
5	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	1-SPEED	1-SPEED	1-SPEED	NONE	°C
6	NONE	2-SPEED	2-SPEED	1-SPEED	1-SPEED	NONE	°C
7	NONE	2-SPEED	1-SPEED	1-SPEED	1-SPEED	1-SPEED	°C
8	NONE	2-SPEED	1-SPEED	1-SPEED	1-SPEED	NONE	°C
9	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	1-SPEED	NONE	1-SPEED	1-SPEED	°C
10	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	1-SPEED	NONE	1-SPEED	NONE	°C
11	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	NONE	NONE	1-SPEED	1-SPEED	°C
12	PROGRAMMABLE FILTRATION + POLLING	1-SPEED	NONE	NONE	1-SPEED	NONE	°C

INSTEAD OF SETUP #5, THIS SYSTEM IS CONFIGURED IN SETUP #:

5

FOR SUPPLY CONNECTIONS, USE COPPER CONDUCTORS ONLY. USE CONDUCTORS SIZED ON THE BASIS OF 60°C AMPACITY BUT RATED MINIMUM OF 90°C.

USE COPPER CONDUCTORS ONLY. EMPLOYER UNIQUEMENT DES CONDUCTEURS DE CUIVRE.

TORQUE RANGE FOR MAIN TERMINAL BLOCK (TB1): 27-30 IN. LBS. (31.1-34.5 kg cm)

SWITCHBANK S1 OFF

TEST MODE OFF	◀ A1	TEST MODE ON
DON'T ADD 1 HS PUMP W/HTR	◀ A2	ADD 1 HS PUMP WITH HEAT
DON'T ADD 2 HS PUMPS W/HTR	◀ A3	ADD 2 HS PUMPS WITH HEAT
DON'T ADD 4 HS PUMPS W/HTR	◀ A4	ADD 4 HS PUMPS WITH HEAT
SPECIAL AMPERAGE RULE A	A5 ▶	SPECIAL AMPERAGE RULE B
STORE SETTINGS*	◀ A6	MEMORY RESET*
1 MIN HTR COOLDOWN (ELEC)	◀ A7	5 MIN HTR COOLDOWN (GAS)
NOT ASSIGNED	◀ A8	NOT ASSIGNED
NOT ASSIGNED	◀ A9	NOT ASSIGNED
NOT ASSIGNED	◀ A10	NOT ASSIGNED

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

TO GROUP 2 ON MAIN BOARD

TO J14 ON MAIN BOARD

TO S2 5A† MAX

TO S1 11A† MAX

SPLITTER OPTIONS:
S1 = PUMP 2*
S2 = FUSED ADAPTER

* PUMP 2 IS UNUSED IN SETUP 11, BUT SPLITTER MUST BE USED FOR BLOWER

***FUSED ADAPTER

‡ OPTIONAL BP2X-WIRE KIT PN 30893 - REQUIRED FOR SETUPS 2, 4, 7, 9 & 11

BALBOA
water group

230V 3p 3x16A

OFF ON

◀ A2

◀ A3

◀ A5

TB1

3 BRN

1 BRN

BLU

2 BRN

GRN

4

1

2

3

REMOVE J51-J58

RELOCATE J41-J53 → J54

J52-J56

J60-J62 → J45

3

J51 J12

J53 J36

BP21MS3B - PN 56634-03

03-27-23

PART B

Setup Reference Table

Setup #	Circ Pump	Pump 1	Pump 2	Pump 3	MicroSilk®	Blower	Temp Scale
1	Programmable Filtration + Polling	2-Speed	2-Speed	1-Speed	1-Speed	None	°C
2	Programmable Filtration + Polling	2-Speed	1-Speed	1-Speed	1-Speed	1-Speed	°C
3	Programmable Filtration + Polling	2-Speed	1-Speed	1-Speed	1-Speed	None	°C
4	Programmable Filtration + Polling	1-Speed	1-Speed	1-Speed	1-Speed	1-Speed	°C
5	Programmable Filtration + Polling	1-Speed	1-Speed	1-Speed	1-Speed	None	°C
6	None	2-Speed	2-Speed	1-Speed	1-Speed	None	°C
7	None	2-Speed	1-Speed	1-Speed	1-Speed	1-Speed	°C
8	None	2-Speed	1-Speed	1-Speed	1-Speed	None	°C
9	Programmable Filtration + Polling	1-Speed	1-Speed	None	1-Speed	1-Speed	°C
10	Programmable Filtration + Polling	1-Speed	1-Speed	None	1-Speed	None	°C
11	Programmable Filtration + Polling	1-Speed	None	None	1-Speed	1-Speed	°C
12	Programmable Filtration + Polling	1-Speed	None	None	1-Speed	None	°C

System (and any replacement board) is shipped in **Setup 5**

Color Key	Output
	XP332 and Splitter
	J14 (Aux) and splitter and in-line Blower fuse
	J14 (Aux) on Main Board

Setup 9 on this system is a copy of Setup 5 from the BP21MS2B system.
 Setup 10 on this system is a copy of Setup 6 from the BP21MS2B system.
 Setup 11 on this system is a copy of Setup 9 from the BP21MS2B system.
 Setup 12 on this system is a copy of Setup 10 from the BP21MS2B system.

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 2012 Balboa Water Group.

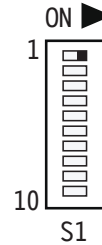


Changing Software Setups with TP800 / TP900 / spaTouch™ Menued Panel

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

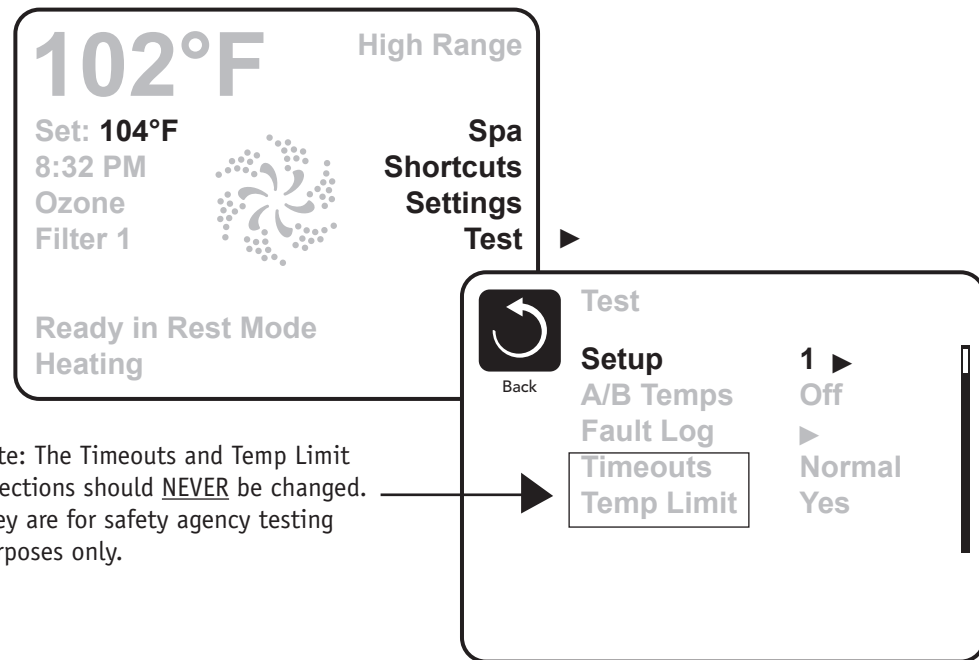
DANGER! HIGH VOLTAGE WILL BE ACCESSIBLE! SERVICE TECHNICIAN ONLY!

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.



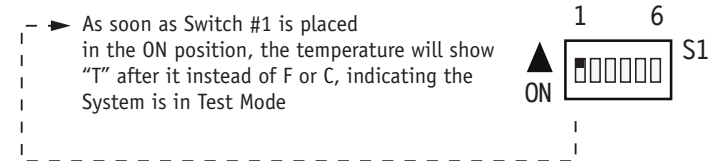
Note: The Timeouts and Temp Limit selections should NEVER be changed. They are for safety agency testing purposes only.

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.



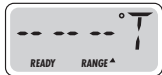
Software Setups

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

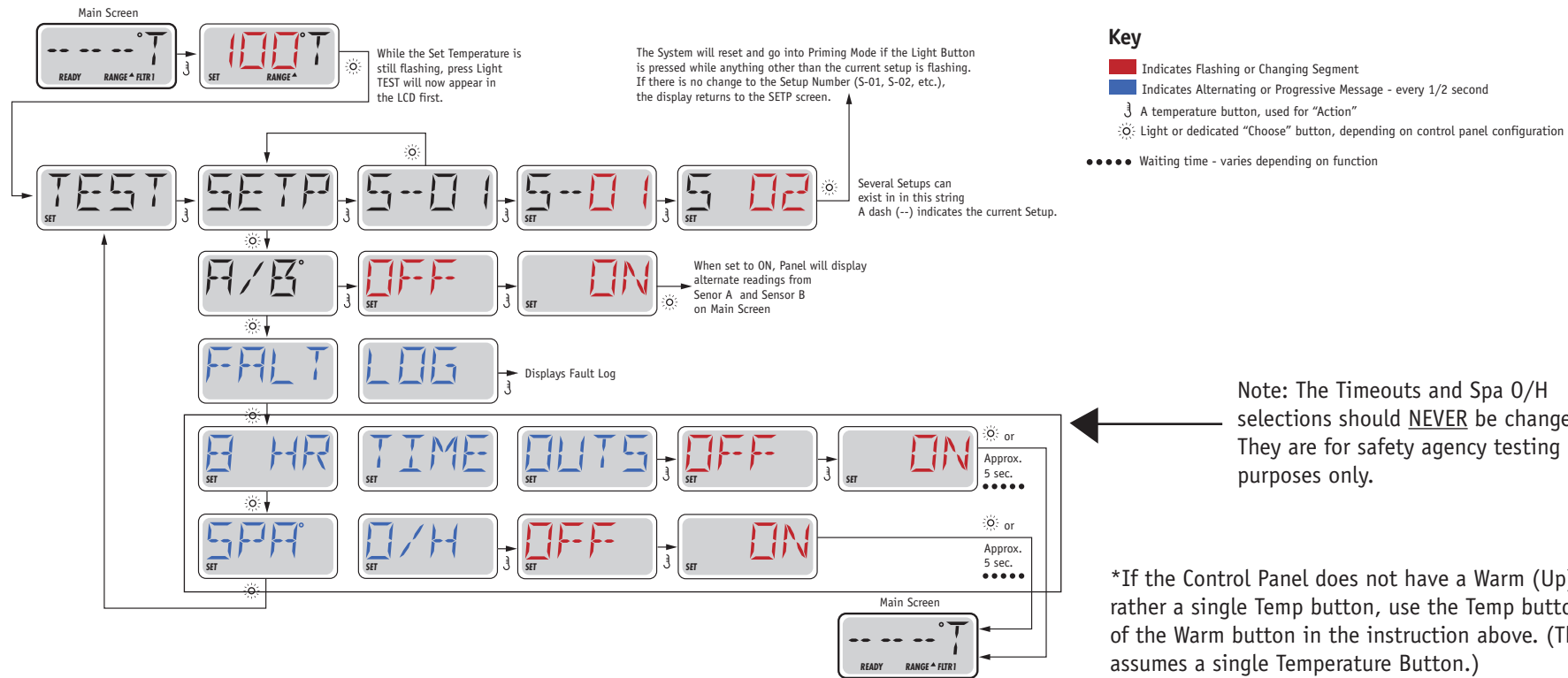
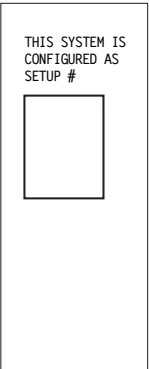
Again, **You will have 1 minute** to complete the setup change after you manually exit Priming Mode.

Immediately after exiting Priming Mode, press this sequence of buttons: Warm*, Light, Warm, Warm, Warm, Warm. Continue to press Warm until the display 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 2012 Balboa Water Group.



Equipment Expansion

Expansion Features

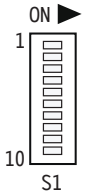
Control Connection

	Default	Fuse
Relay 1 (J101)	Undefined	None
Relay 7/8 (J107)	See Below	30A
	1-Speed Pump 3 And 1-Speed MicroSilk® (With Splitter) - Pump 3 output is not used in Setups 9 - 12	
Relay 9/10 (J108)	Undefined	None

DIP Switch Functions

Fixed-function 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. |
| A4 | In "ON" position, add four high-speed pumps (or 3 HS Pumps 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, A3, and A4 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 and A4 in the OFF 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/A4 all off = No heat with any high-speed pump or blower.

Assignable DIP Switches

- | | |
|----|---|
| A7 | 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	Non Applicable on CE models	J109 
J91	Real Time Clock Enable/Disable Note: This Jumper should NOT be shorted when the Control Panel can display time of day.	J91 
J30	Do Not Use	
J31	Jumper on 1 pin with 2.0kW or smaller heater Jumper on 2 pins with a 3.0kW or higher heater	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. In some areas, a local power company may offer discounts based on voluntary “power shedding” devices that may be installed in conjunction with the spa.	J29 
J25, J26, J27	Heater Type Settings. Note: Factory Configured do not change.	J25  J26  J27 
J24	Jumper on center two pins (230V) when heater is running at 240V. Two Jumpers installed; one on left 2 pins and one on right 2 pins (115V) when heater is running at 120V.	J24  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: 59543-01
Expander PCBA: 59097

HEATER(s):

Plug + Click Heater Kit: 58107R16 3.0kW 825 Inc
55626R16 3.0kW Titanium
Temp Sensor Kit: 53605

CABLES:

25914 P3/MS Adapter

FUSES:

Part Number	Amperage*	Location
30136	30A	F6, F8, F1 (Expander)
26307	2A	F4
24825	0.125A	F3
26904	10A	F2, F7
26976	3.15A	F5

* 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.

BP2100 Configuration Options

General Features

Feature	Default
Pump 1 in Filter Cycle (Circ Only)	No
Pump 1 Low Timer	<i>15 Minutes</i>
General Pump Timer	15 Minutes
Blower Timer	15 Minutes
MicroSilk® Timer	30 Minutes
Mister Timer	15 Minutes
Light Timer	240 Minutes
Circ (when enabled)	Programmable + Polling <i>See Circ Pump Note</i>
Cleanup Cycle	<i>30 Minutes</i>
CleaNup as Preference setting	<i>Yes</i>
Ozone	With Heater Pump*
Ozone Suppression	OFF
Pump Purge	60 Seconds
Blower/MicroSilk® 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 2012 Balboa Water Group.

BP2100 Configuration Options

Temperature Features

Feature	Default
Temperature Display	°C

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 2012 Balboa Water Group.

BP2100 Configuration Options

Time Features

Feature	Default
Time Format*	24 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 2012 Balboa Water Group.

BP2100 Configuration Options

Reminder Features

Feature	Default
Reminders Shown*	<i>Yes</i>
Check pH	<i>OFF</i>
Check Sanitizer	<i>OFF</i>
Clean Filter	30 Days
Test GFCI	<i>65 Days</i>
Drain Water	<i>100 Days</i>
Change Cartridge	OFF
Clean Cover	<i>OFF</i>
Treat Wood	<i>OFF</i>
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 2012 Balboa Water Group.

BP2100 Configuration Options

Special Features

Feature

Default

Special Amperage Rule A

No Limitation

Special Amperage Rule B

Blower and MicroSilk® turn off when all pumps are on high speed

Drain Mode

Disabled

Demo Mode

Disabled

GFCI Trip

Not Applicable for CE Models

Ozone Slaved to Heater Pump

Yes in circ setups
No in non-circ setups

Dual Voltage Heater

Always Input Voltage

Safety Suction

Disabled

TP400 Panel Configuration

Button Layout Table for TP400T

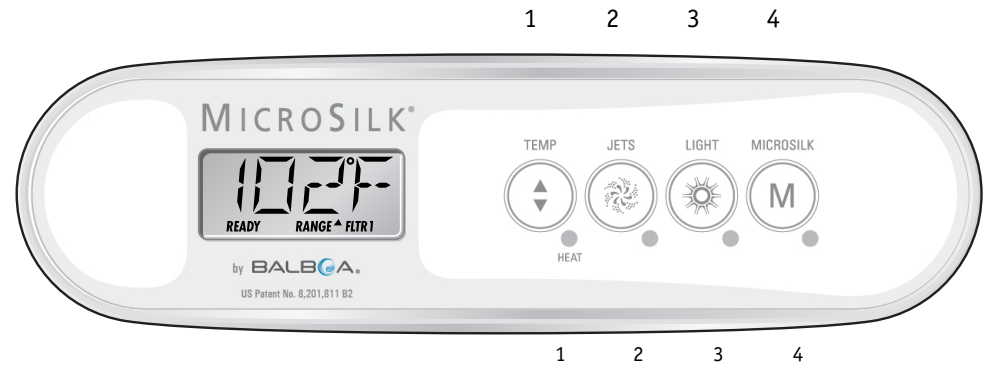
Button #	Setups 11 & 12
1	Temperature
2	Jets 1
3	Light 1
4	MicroSilk®
LED 1	Heater ON
LED 2	Jets 1 ON
LED 3	Light ON
LED 4	MicroSilk®

TP400T CE

50332-XX ▶

Includes Overlay PN 12741

Can be used in Setups 11 & 12.

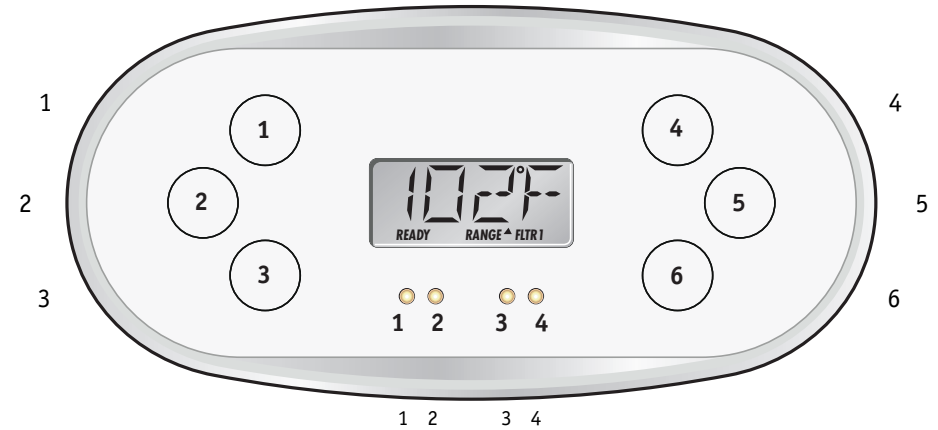


The TP400T is mainly suitable for Setup 12. In Setup 11 an AX10 A3 for Blower will be required. The TP400T is not supported in Setups 1 - 10 which have a Pump 2.

TP600 Panel Configuration

Button Layout Table

Button #	Pump 2 Setups 9 & 10	No Pump 2, Blower Setup 11	No Pump 2, No Blower Setup 12
1	Jets 1	Jets 1	Jets 1
2	Jets 2	Blower	Unused
3	MicroSilk®	MicroSilk®	MicroSilk®
4	Up	Up	Up
5	Light 1	Light 1	Light 1
6	Down	Down	Down
LED 1	Jets 1	Jets 1	Jets 1
LED 2	Jets 2	Blower	Unused
LED 3	Light 1	Light 1	Light 1
LED 4	Heat On	Heat On	Heat On



TP600

Panel 50439-XX - Includes Overlay 13142 – can be used in Setups 9 - 12.

The TP600 is mainly suitable for Setups 10 - 12. In Setup 9 an AX10 A3 for Blower will be required. The TP600 is not supported in Setups 1 - 8 which have a Pump 3.



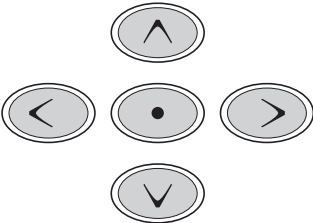
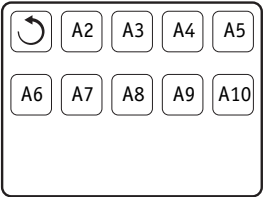
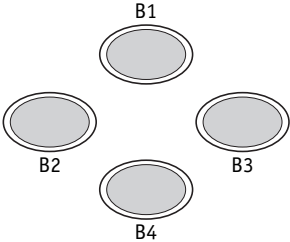
TP800 Panel Configuration

Button Layout Table

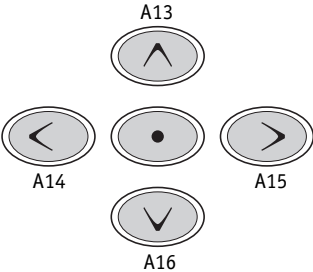
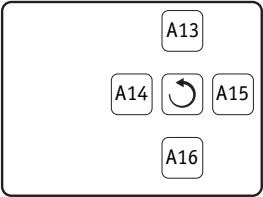
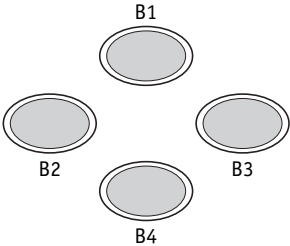
Feature #	3 Pumps, Blower & Circ Setups 2 & 4	3 Pumps, NO Blower & Circ Setups 1, 3, & 5	3 Pumps, Blower & No Circ Setup 7	3 Pumps, NO Blower & No Circ Setups 6 & 8	2 Pumps, Blower & Circ Setup 9	1 Pump, Blower & Circ Setup 11	2 Pumps, NO Blower & Circ Setup 10	1 Pump, NO Blower & Circ Setup 12
A1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A2	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
A3	Jets 2	Jets 2	Jets 2	Jets 2	Jets 2	Blower	Jets 2	MicroSilk®
A4	Jets 3	Jets 3	Jets 3	Jets 3	Blower	MicroSilk®	MicroSilk®	Light 1
A5	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	Light 1	Light 1	Invert
A6	Blower	Light 1	Blower	Light 1	Light 1	Invert	Invert	(Circ Icon)
A7	Light 1	Invert	Light 1	Invert	Invert	(Circ Icon)	(Circ Icon)	Undefined
A8	Invert	(Circ Icon)	Invert	Undefined	(Circ Icon)	Undefined	Undefined	Undefined
A9	(Circ Icon)	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A10	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A13	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Undefined	Undefined	Undefined
A14	Jets 2	Jets 2	Jets 2	Jets 2	Jets 2	Undefined	Undefined	Undefined
A15	Jet 3	Jet 3	Jet 3	Jet 3	Blower	Undefined	Undefined	Undefined
A16	Blower	Light 1	Blower	Light 1	Light	Undefined	Undefined	Undefined
B1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
B2	Jets 2	Jets 2	Jets 2	Jets 2	Jets 2	Blower	Jets 2	Undefined
B3	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®
B4	Light 1	Light 1	Light 1	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.

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

TP800 Panel Configuration

TP800

Panel 50438-XX - Includes Overlay 13141 - can be used with all Setups.



Panel 50318-XX – Includes Overlay 12719 – can be used with Setups 1 - 10.



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 2012 Balboa Water Group.

TP900 Panel Configuration

Button Layout Table

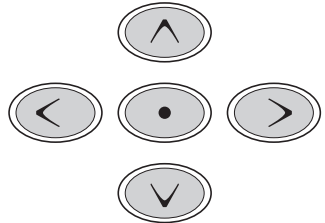
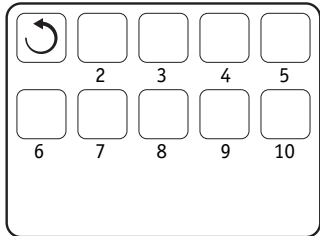
Feature #	3 Pumps, Blower & Circ Setups 2 & 4	3 Pumps, NO Blower & Circ Setups 1, 3, & 5	3 Pumps, Blower & No Circ Setup 7	3 Pumps, NO Blower & No Circ Setups 6 & 8	2 Pumps, Blower & Circ Setup 9	1 Pump, Blower & Circ Setup 11	2 Pumps, NO Blower & Circ Setup 10	1 Pump, NO Blower & Circ Setup 12
A1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A2	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
A3	Jets 2	Jets 2	Jets 2	Jets 2	Jets 2	Blower	Jets 2	MicroSilk®
A4	Jets 3	Jets 3	Jets 3	Jets 3	Blower	MicroSilk®	MicroSilk®	Light 1
A5	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	MicroSilk®	Light 1	Light 1	Invert
A6	Blower	Light 1	Blower	Light 1	Light 1	Invert	Invert	(Circ Icon)
A7	Light 1	Invert	Light 1	Invert	Invert	(Circ Icon)	(Circ Icon)	Undefined
A8	Invert	(Circ Icon)	Invert	Undefined	(Circ Icon)	Undefined	Undefined	Undefined
A9	(Circ Icon)	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A10	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
14	Jets 2	Jets 2	Jets 2	Jets 2	Jets 2	Blower	Jets 2	MicroSilk®
15	Jets 3	Jets 3	Jets 3	Jets 3	MicroSilk®	MicroSilk®	MicroSilk®	Light
16	Blower	Light 1	Blower	Light 1	Light	Light	Light	Invert

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

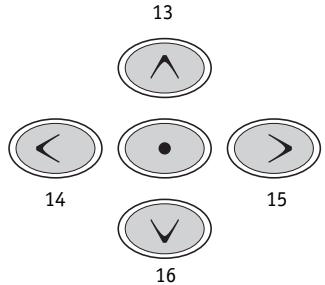
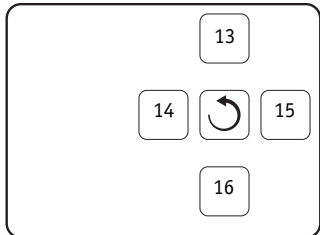
TP900 Panel Configuration

Button #
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Spa Screen



Shortcuts Screen



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 2012 Balboa Water Group.



BP2100 Configuration Options

Auxiliary Panel Features on Bank 1*

Feature	Default
Aux Button A1	Jets 1
Aux Button A2	Jets 2
Aux Button A3	Blower
Aux Button A4	Light

Auxiliary Panel Features on Bank 2*

Feature	Default
Aux Button A5	Jets 1
Aux Button A6	Jets 2
Aux Button A7	Jets 3
Aux Button A8	<i>MicroSilk®</i>

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

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

Bank 2 consists of J8 on the Main Circuit Board.

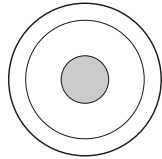
Aux Connection Splitter PN 25257 may be required.

BP2100 Configuration Options

Auxiliary Panel Features

AX10 Panels on Bank 1*

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



Call Customer Service for additional information about Auxiliary Panels.

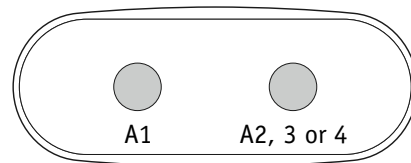
AX10 Panels on Bank 2*

A5, AX10A1	No O/L	52803
A6, AX10A2	No O/L	52804
A7, AX10A3	No O/L	52805
A8, AX10A4	No O/L	52806

*Bank 1 consists of J5 on the Main Circuit Board.
Bank 2 consists of J8 on the Main Circuit Board.
Aux Connection Splitter PN 25257 may be required.

AX20

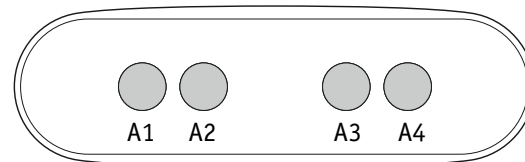
AX20 A1A2	No O/L	52800
AX20 A1A3	No O/L	52801
AX20 A1A4	No O/L	52802



AX20 Auxiliary Panel plugged into Bank 1 will operate A1 + A2, A3 or A4.
AX20 Auxiliary Panel plugged into Bank 2 will operate A5 + A6, A7 or A8.

AX40

AX40	No O/L	52799
------	--------	-------

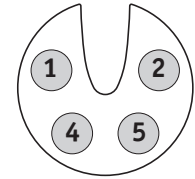


AX40 Auxiliary Panel plugged into Bank 1 will operate A1 + A2, A3 and A4.
AX40 Auxiliary Panel plugged into Bank 2 will operate A5 + A6, A7 and A8.

BP2100 Configuration Options

Remote Panel Features

Feature	Default
Remote Button A1	Jets 1
Remote Button A2	Jets 2
Remote Button A3	<i>Undefined</i>
Remote Button A4	<i>Jets 3 in Setups 1 - 8, Blower in Setups 9 - 12</i>
Remote Button A5	Light
Remote Button A6	Undefined
Remote Button A7	Undefined
Remote Button A8	Undefined



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

Remote Panel Part Number _____
Overlay Part Number _____

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 2012 Balboa Water Group.