BP21MS3B Tech Sheet

Customer: **Balboa Water Group**

Part Number:
56633-01 800 Incoloy 3kW
56634-01 825 Incoloy 3kW
56635-01 Titanium 3kW

Custom Box Overlay	☐
Box Overlay Part Number	N/A
CE System Model:	BP21-BP21MS3B-RCA3.0K
Software Version ID:	M100_225 V36.0
Software Version:	36.0
File Name:	BP2100_36.0_BP21MS3B_12SU.hex
Configuration Signature:	52FCF0CD
Eng. Project Number:	4776

Control Panels:

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)
TP600*	Version 2.7 and later
TP400T CE*	Version 2.7 and later (TP400T US should not be used)

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

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.

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

bba™ is only integrated into graphic display panels (TP800, TP900 and spaTouch™). With TP600 the Aux button operation of bba™ must be used.

bba™2 is only integrated into graphic display panels (TP800, TP900 and spaTouch™). bba™2 does not support Aux button operation.

BALBOA water group

Basic Functions Setup 1 - 12

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
230VAC, 50/60Hz*, 1þ, 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*, 3þ, 16A, (Circuit Breaker rating = 20A max each phase line.)

* BP systems automatically detect 50Hz vs 60Hz.

** 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 J11 prior to performing HiPot test. Failure to disconnect may cause a false failure of the test. Reconnect terminal to J11 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 Ouputs:

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

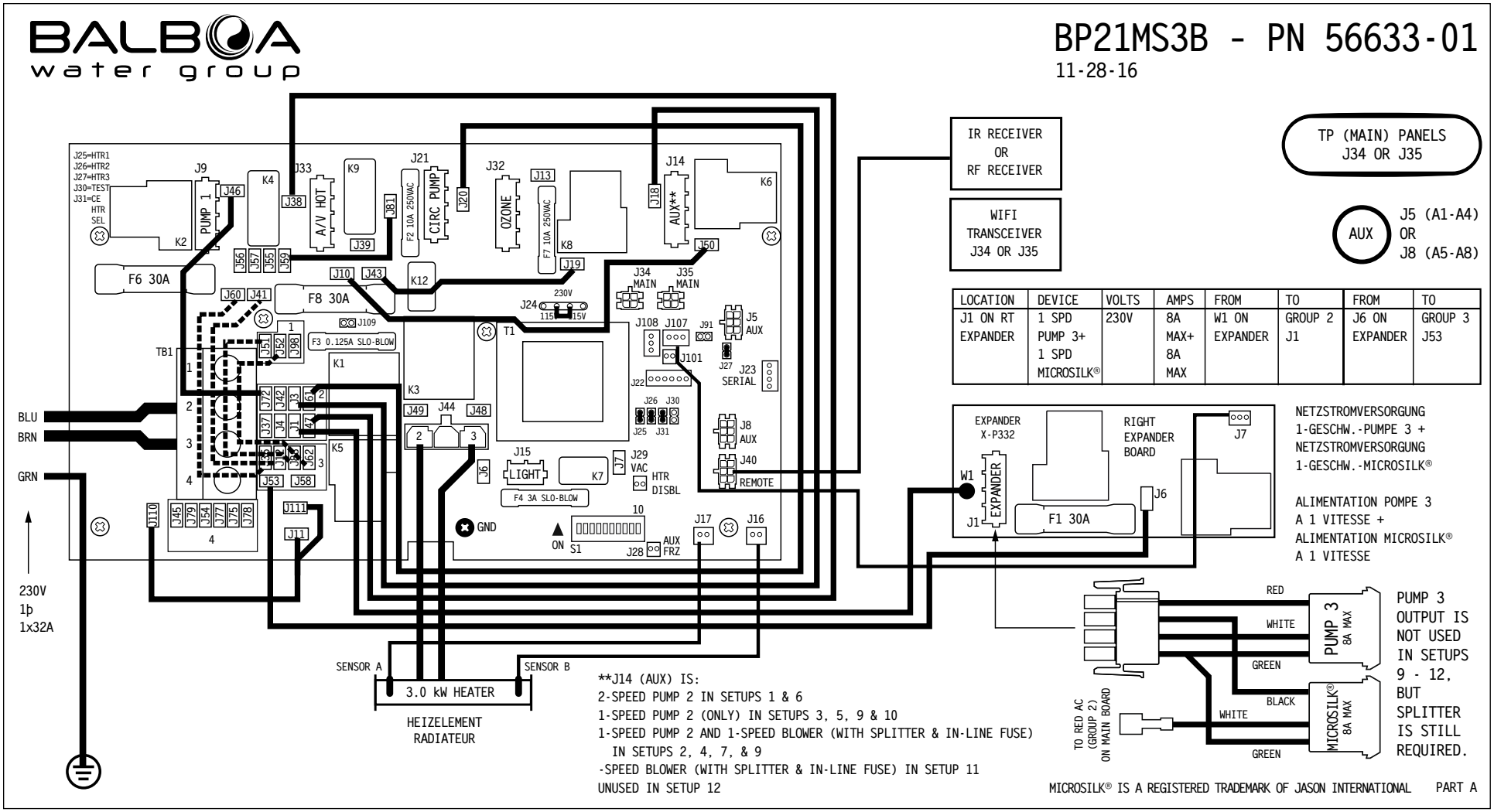
* These are individual maximums but depending on the electrical services they may need to be reduced.

MicroSilk® is a registered trademark of Jason International

BALBOA water group

Hardware Setup

Wiring Diagram



Hardware Setup

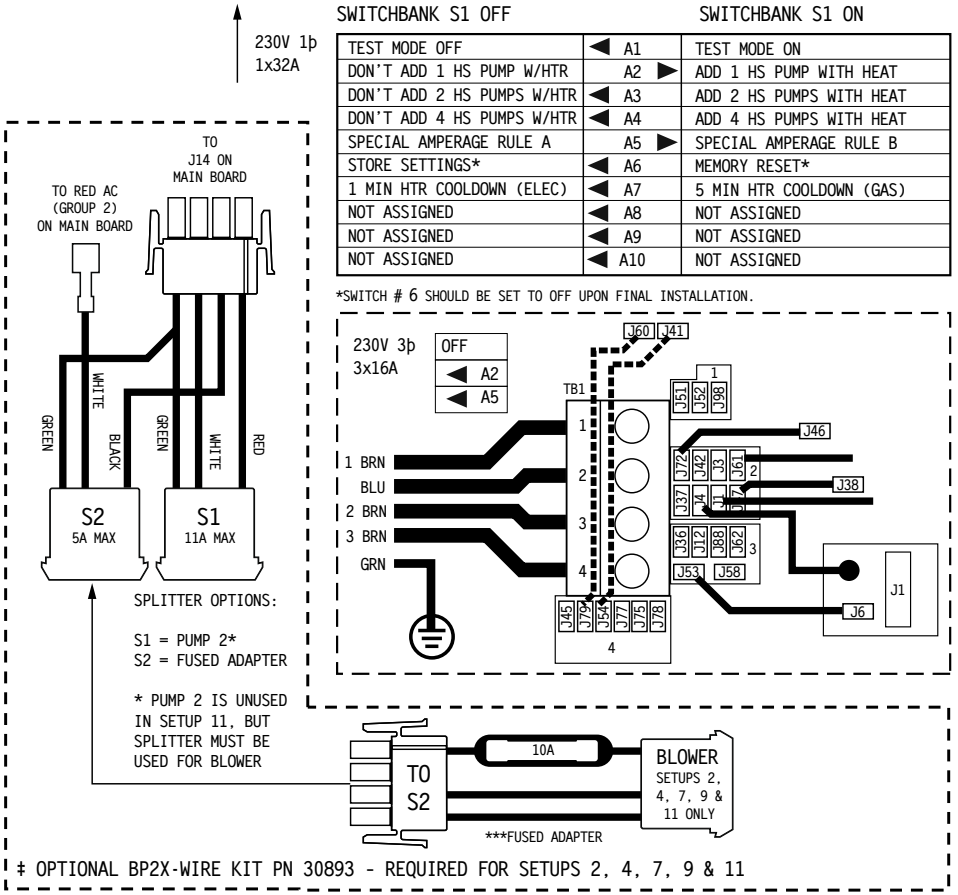
Settings

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

LOCATION	DEVICE
J9	NETZSTROMVERSORGUNG 2-GESCHW.-PUMPE 1 ALIMENTATION POMPE 1 A 2 VITESSES 2-SPEED PUMP 1
J14	AUX**
	AUX LINE 1 CONNECTION J19 to J43, J50 to J10
J15	10V BELEUCHTUNG ECLAIRAGE BAIN HYDRO SPA LIGHT
J21	KREISLAUF PUMPE POMPE DE CIRCULATION CIRC PUMP (SETUPS 7-14, 16)
J32	OZONGENERATOR GENERATOROZONE OZONE GENERATOR
	CIRC AND OZONE LINE 1 CONNECTION J81 to J59
J33	TV / AV
J40	IR RECIEVER
J5, J8	AUX PANEL(S) - AX10, AX20, AX30, AX40

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 #:



SWITCHBANK S1 OFF		SWITCHBANK S1 ON
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.

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

FOR SUPPLY CONNECTIONS, 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)

BALBOA water group

BP21MS3B - PN 56633-01

11-28-16

PART B

BALBOA water group

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.

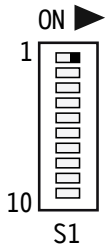
BALBOA water group

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

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

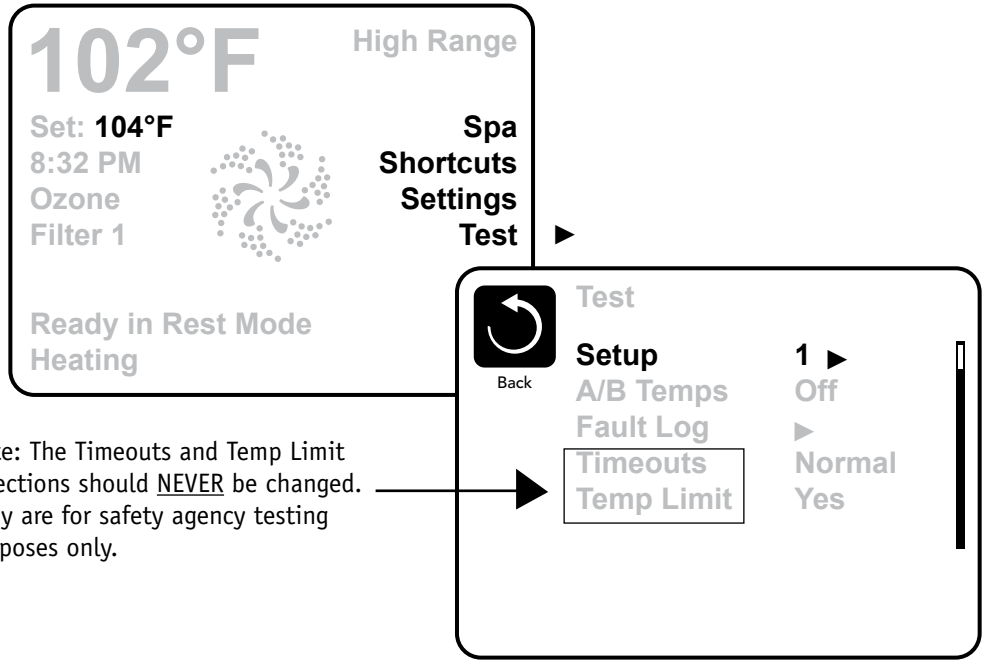
DANGER! HIGH VOLTAGE WILL BE ACCESSIBLE! SERVICE TECHNICIAN ONLY!

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.

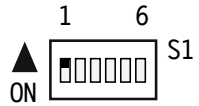
Changing Software Setups with TP600 / TP400

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.

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

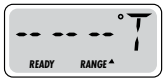


Software Setups

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.

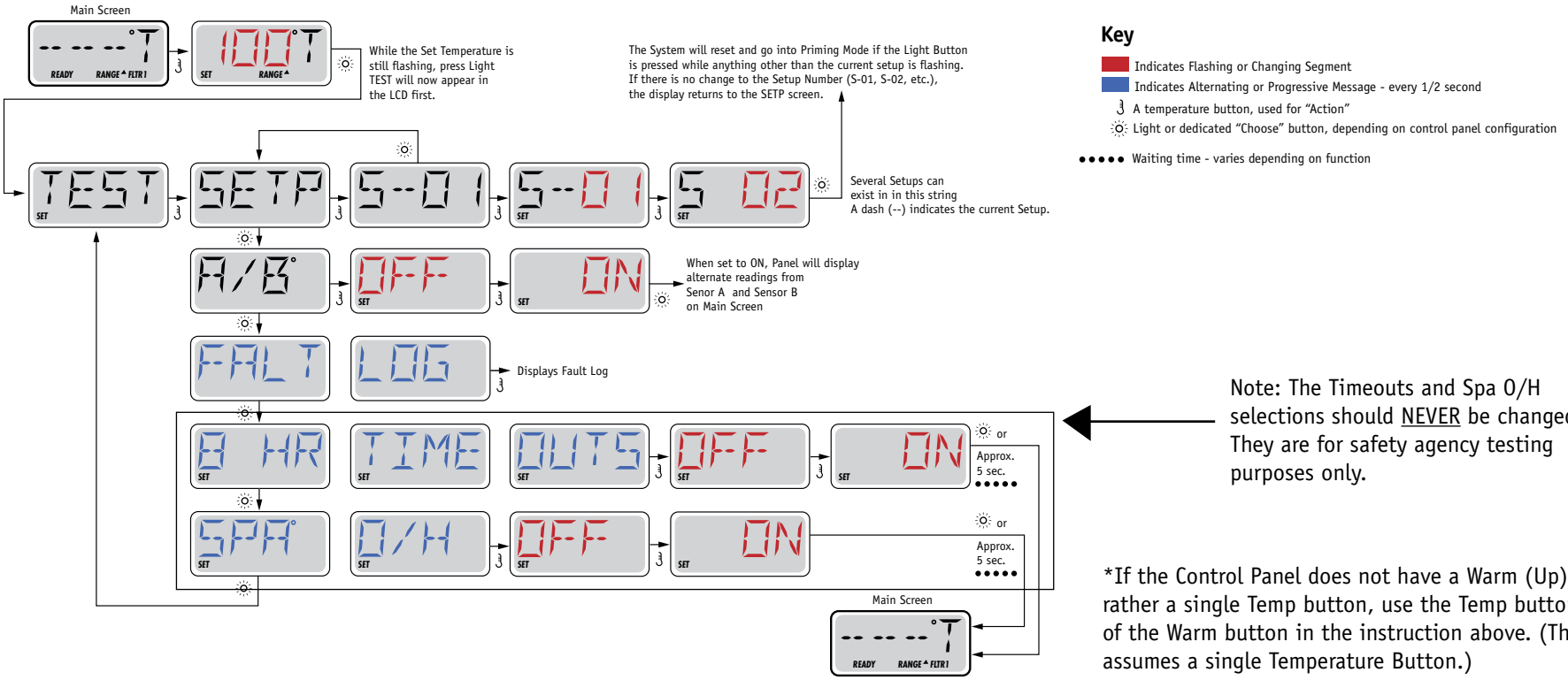
Immediately after exiting Priming Mode, press this sequence of buttons: Warm*, Light, Warm, Warm, Warm, Warm. Continue to press Warm until the diplay shows the Setup Number (S-01, S-02, etc.) you want to switch to. When the correct setup number is showing, press Light once, and the system will reset,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

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.)

BALBOA water group

Equipment Expansion

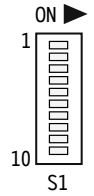
Expansion Features

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

BALBOA water group

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.
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.

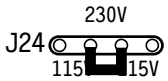
Note: *A2/A3/A4 all off = No heat with any high-speed pump or blower.*

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.*	J27  J25   J26
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.	

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.

BALBOA water group

Replacement Parts

PCBA:

Main PCBA:	56636-01
Expander PCBA:	55137

HEATER(s):

Plug + Click Heater Kit:	58300 3.0kW 800Inc 58301 3.0kW 825Inc 58302 3.0kW Titanium
Temp Sensor Kit:	53605

CABLES: 25089 P3/MS Adapter

FUSES:

Part Number	Amperage	Location
30136	30A	F6, F8, F1 (Expander)
20600	3A	F4
26397	1/8A	F3
30122	10A	F2, F7

BP2100 Configuration Options

General Features

Feature	Default
Pump 1 in Filter Cycle (Circ Only)	No
Pump 1 Low Timer	*15 Minutes*
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 *See Circ Pump Note*
Cleanup Cycle	*30 Minutes*
Cleaup as Preference setting	*Yes*
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.

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)*

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)*

BALBOA water group

BP2100 Configuration Options

Reminder Features

Feature	Default
Reminders Shown*	*Yes*
Check pH	*OFF*
Check Sanitizer	*OFF*
Clean Filter	30 Days
Test GFCI	*65 Days*
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)*

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.

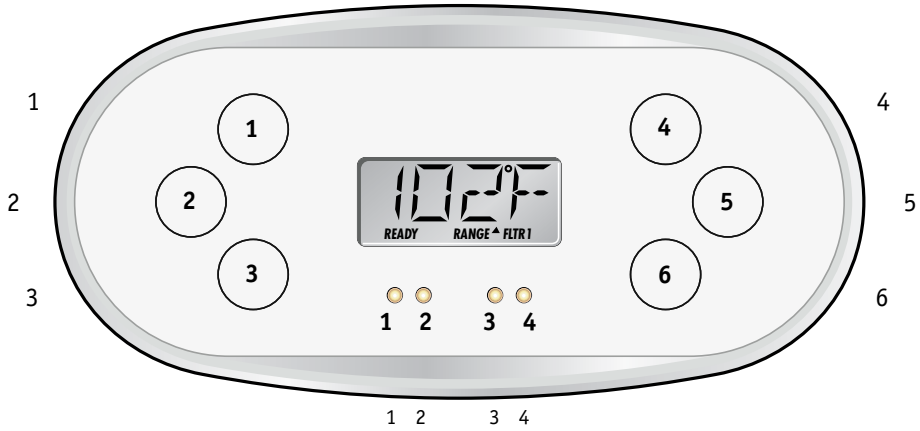
The TP400T is mainly suitable for Setup 12. In Setup 11 an AX10 A3 for Blower will be required. The TP400T is not supported in Setups 1 - 10 which have a Pump 2.

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

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.



TP600

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

TP800 Panel Configuration

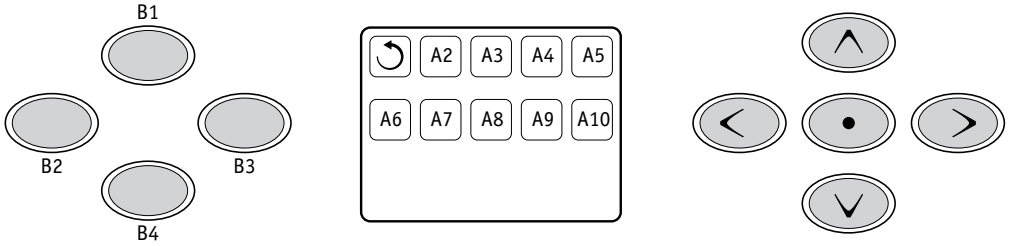
Button Layout Table

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

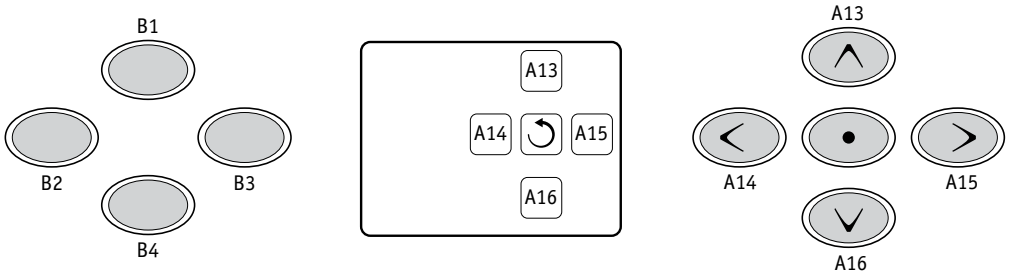
BALBOA water group

TP800 Panel Configuration

Spa Screen



Shortcuts Screen



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

Button 1 is fixed.

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.

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

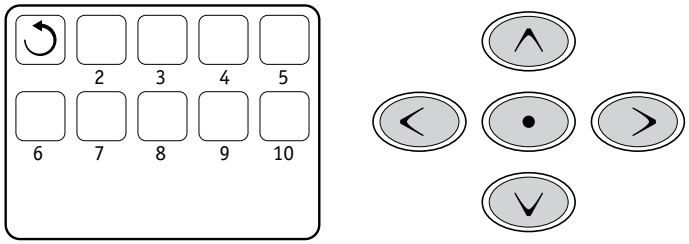
A Circ Icon will appear when a Circ Pump is configured.

BALBOA water group

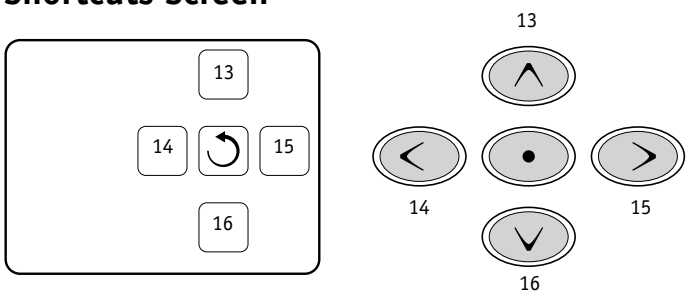
TP900 Panel Configuration

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

Spa Screen



Shortcuts Screen



BP2100 Configuration Options

Auxilliary 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

Auxilliary 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	*MicroSilk®*

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

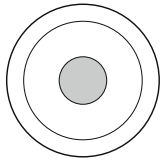
*Bank 1 consists of J5 on the Main Circuit Board.
Bank 2 consists of J8 on the Main Circuit Board.
Aux Connection Splitter PN 25257 may be required.

BP2100 Configuration Options

Auxilliary 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.

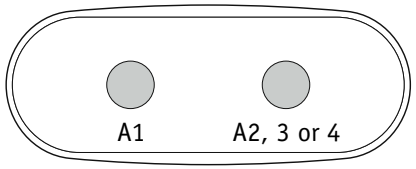
AX10 Panels on Bank 2*

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

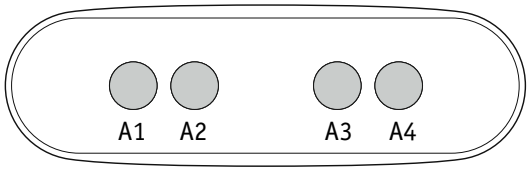
AX20 A1A2	No O/L	52800
AX20 A1A3	No O/L	52801
AX20 A1A4	No O/L	52802



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

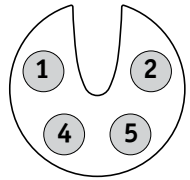


AX40 Auxiliary Panel plugged into Bank 1 will operate A1 + A2, A3 and A4.
AX40 Auxiliary Panel plugged into Bank 2 will operate A5 + A6, A7 and A8.

BP2100 Configuration Options

Remote Panel Features

Feature	Default
Remote Button A1	Jets 1
Remote Button A2	Jets 2
Remote Button A3	*Undefined*
Remote Button A4	*Jets 3 in Setups 1 - 8, Blower in Setups 9 - 12*
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 _____