

BP21GOWL Tech Sheet

Customer: Balboa Water Group

Part Number: 56803-02 825 Incoloy 3kW

Custom Box Overlay

Box Overlay Part Number N/A

CE System Model: BP21-BP21GOWL-RCA3.0K

Software Version ID: M100_225 V65.0

Software Version: 65.0

File Name: BP2100_65.0_BP21GOWL_C8ZSW8.hex

Configuration Signature: 2EE3AB79

Eng. Project Number: 5663

Control Panels:

spaTouch™3 Any version (version 3.2 or later required for Clim8zone™ heat pump support)

spaTouch™2 Any version (version 2.19 or later required for CHROMAZON3™ support; version 2.36 or later required for Clim8zone™ heat pump support)

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 3.8 and later (Version 3.13 or later required for bba™)

TP800 Version 3.8 and later (Version 3.13 or later required for bba™; version 4.11 or later required for bba™2 integrated functionality)

TP600 Version 2.9 and later

TP400T CE Version 2.9 and later (TP400T US should not be used)

TP400W CE Version 2.9 and later (TP400W US should not be used)



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.

System Revision History

Part #	EPN	Date	Originator	Changes Made
ZT000220	4620	11-05-15	BWG	Special version of BP2100G0 with water level sensor.
56802 56803 56804 56806	4620	11-10-15	BWG	Release for production.
56802-01 56803-01 56804-01 56806-01	4776	12-01-16	BWG	Updated to latest software version, adding topside-intergrated bba™2 support. Released to production.
56803-02	5098 5663	04-13-23	BWG	Redesigned BP2100 board + updated software to support CHROMAZON™ & M8. Update board over-voltage protection. Update to support Clim8zone™ heat pump. 56802-XX, 56804-XX, & 56806-XX discontinued.

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

bba™2 / bba™3 is integrated into graphic display panels (including 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 Setups 1-14

Power Requirements:

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

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

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

230VAC, 50/60Hz, 2p, 16A, (Circuit Breaker rating = 20A max each phase line.)

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.)

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.

** 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.

In 3x16A Service:

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

The Heater is on another service.

Everything else is on the remaining service.

In 2x16A Service:

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

Everything else is on the other service.

Basic Functions Setups 1-14

System Outputs:

In Group 3:

Pump 1	230VAC	2-Speed 1-Speed in Setups 6 - 9	11A max**	15-minute timer for High Speed, 15-Minute timer for Low Speed -----	<input checked="" type="checkbox"/>
		This is the heater pump in Setups 10 - 14 Must deliver 20 GPM through heater			
Pump 2	230VAC	2-Speed 1-Speed in Setups 2, 3, 6, 7, 11 & 12 Unused in Setups 4, 5, 8, 9, 13 & 14	11A max**	15-minute timer	
Blower	230VAC	1 Speed Unused in Setups 1, 3, 5, 7, 9, 10, 12 & 14	5A max**	15-minute timer	
Circ Pump	230VAC	1-Speed This is the heater pump in Setups 1 - 9 Must deliver 20 GPM through heater	2A max**	Programmable Filtration Cycles + Polling	
Ozone	230VAC		.5A max*	Slaved to Circ Pump in Setups 1 - 9 Independent in Setups 10 - 14	
Spa Light	10VAC	On/Off	2A* max	240-minute timer.	
AV + C8Z***	230VAC	Hot	2A+8A max	Always on	
Heater	3.0kW @ 240VAC max				

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

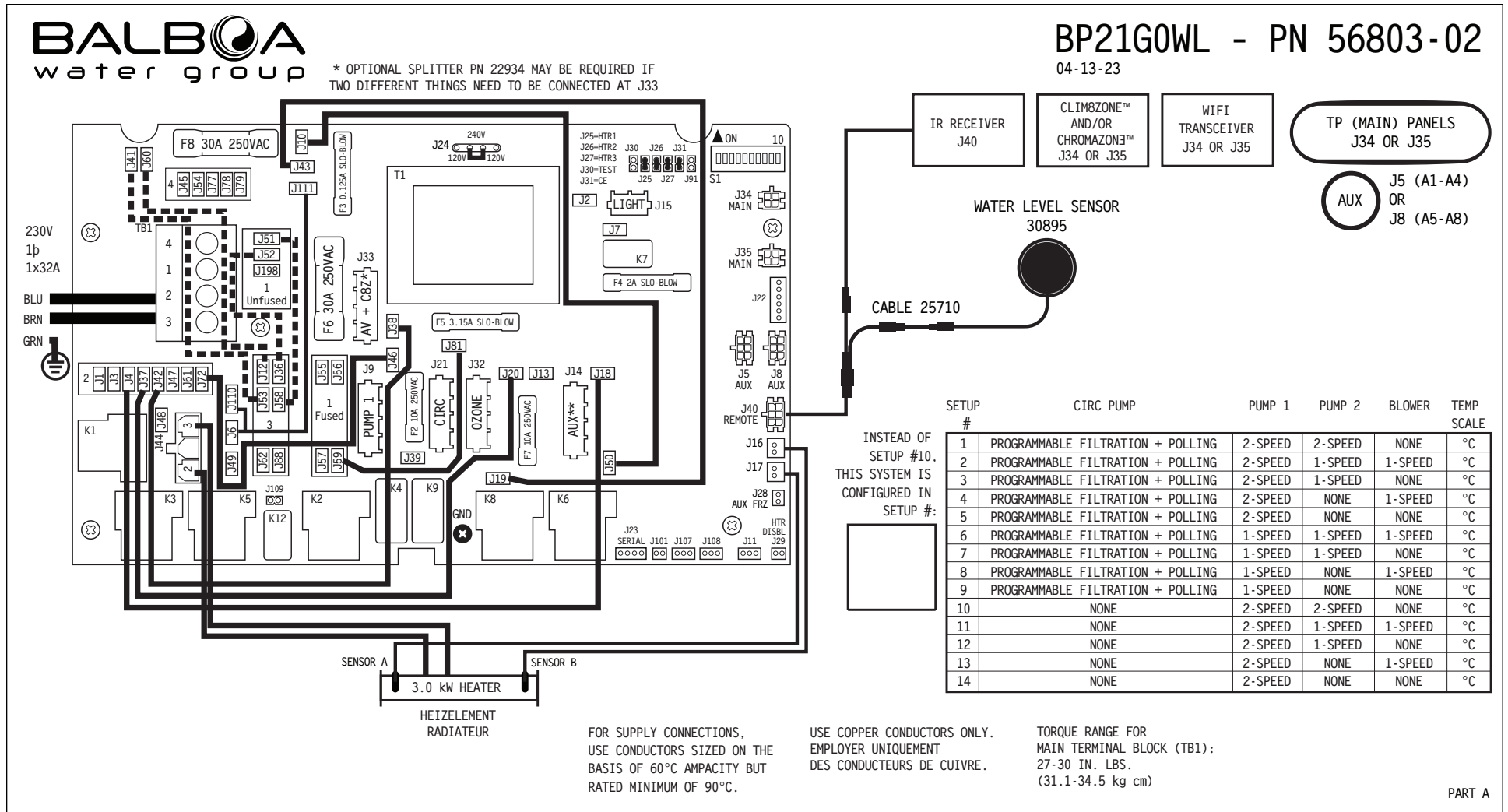
** These are individual maximums but depending on the electrical services they may need to be reduced.

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

Note: When using Clim8zone™ in 3x16A, switches A2 and A3 must be Off and switch A8 must be On. This combination of switches causes only items in Group 3 -- Pump 1 at High Speed -- to turn both the electric Heater and Clim8zone™ Off. In this situation, the electric Heater and Clim8zone™ can continue to run while Pump 2 and/or Blower are On at any speed.

Hardware Setup

Wiring Diagram



Hardware Setup

Settings

SINGLE SERVICE 230V 1p / 1x32A, DUAL SERVICE 230V 2x1p / 3x16A, 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	AUX**: 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 + CLIM8ZONE™ (C8Z)	2A + 8A
J44	HEATER	3.0KW

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

**J14 (AUX) IS:

- 2-SPEED PUMP 2 IN SETUPS 1 & 10
NETZSTROMVERSORGUNG 2-GESCHW. -PUMPE 2
ALIMENTATION POMPE 2 A 2 VITESSES
- 1-SPEED PUMP 2 (ONLY) IN SETUPS 3, 7 & 12
NETZSTROMVERSORGUNG 1-GESCHW. -PUMPE 2
ALIMENTATION POMPE 2 A 1 VITESSES
- 1-SPEED PUMP 2 AND 1-SPEED BLOWER (WITH SPLITTER & IN-LINE FUSE) IN SETUPS 2, 6, & 11
NETZSTROMVERSORGUNG 1-GESCHW. -PUMPE 2 + SPRUDELGEBLASE
ALIMENTATION POMPE 2 A 1 VITESSES + VENTILATEUR
- 1-SPEED BLOWER (ONLY) (WITH SPLITTER & IN-LINE FUSE) IN SETUPS 4, 8, & 13
VENTILATEUR SPRUDELGEBLASE
- UNUSED IN SETUPS 5, 9, & 14

230V 2p 2x16A

REMOVE JUMPER WIRES J51-J58 J52-J36

IMPORTANT NOTE: CLIM8ZONE™ IS NOT COMPATIBLE WITH 2x16A WIRING.

230V 1p 1x32A

TO RED AC (GROUP 2) ON MAIN BOARD

TO J1 ON EXPANDER

SPLITTER OPTIONS:
S1 = PUMP 2
S2 = FUSED ADAPTER

SWITCHBANK S1 OFF

TEST MODE OFF	◀ A1
DON'T ADD 1 HS PUMP W/HTR	◀ A2
DON'T ADD 2 HS PUMPS W/HTR	◀ A3
DON'T ADD 4 HS PUMPS W/HTR	◀ A4
SPECIAL AMPERAGE RULE A	◀ A5
STORE SETTINGS*	◀ A6
1 MIN HTR COOLDOWN (ELEC)	◀ A7
3-PHASE SPCL AMP RULE OFF	◀ A8
NOT ASSIGNED	◀ A9
NOT ASSIGNED	◀ A10

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

230V 3p 3x16A

REMOVE JUMPER WIRES J51-J58 J52-J36

WHEN NOT USING CLIM8ZONE™ (C8Z):

OFF	ON
◀ A2	▶
◀ A3	▶
◀ A8	▶

WHEN USING CLIM8ZONE™ (C8Z)**:

OFF	ON
◀ A2	▶
◀ A3	▶
◀ A8	▶

** SWITCH A8, WHEN ON (ALONG WITH A2 & A3 OFF), CAUSES ONLY PUMP 1 TO TURN HEATER AND CLIM8ZONE™ OFF.

SWITCHBANK S1 ON

TEST MODE ON	▶ A1
ADD 1 HS PUMP WITH HEAT	▶ A2
ADD 2 HS PUMPS WITH HEAT	▶ A3
ADD 4 HS PUMPS WITH HEAT	▶ A4
SPECIAL AMPERAGE RULE B	▶ A5
MEMORY RESET*	▶ A6
5 MIN HTR COOLDOWN (GAS)	▶ A7
3-PHASE SPCL AMP RULE ON	▶ A8
NOT ASSIGNED	▶ A9
NOT ASSIGNED	▶ A10

OPTIONAL BP2X-WIRE KIT PN 30893 - REQUIRED FOR SETUPS 2, 4, 6, 8, 11, & 13

BALBOA
water group

BP21G0WL - PN 56803-02

04-13-23

PART B

Setup Reference Table

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

System (and any replacement board)
is shipped in Setup 10

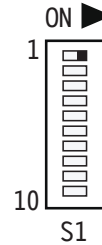
Color Key	Output
	J14 (Aux) and splitter and in-line Blower fuse
	J14 (Aux) on Main Board

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

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

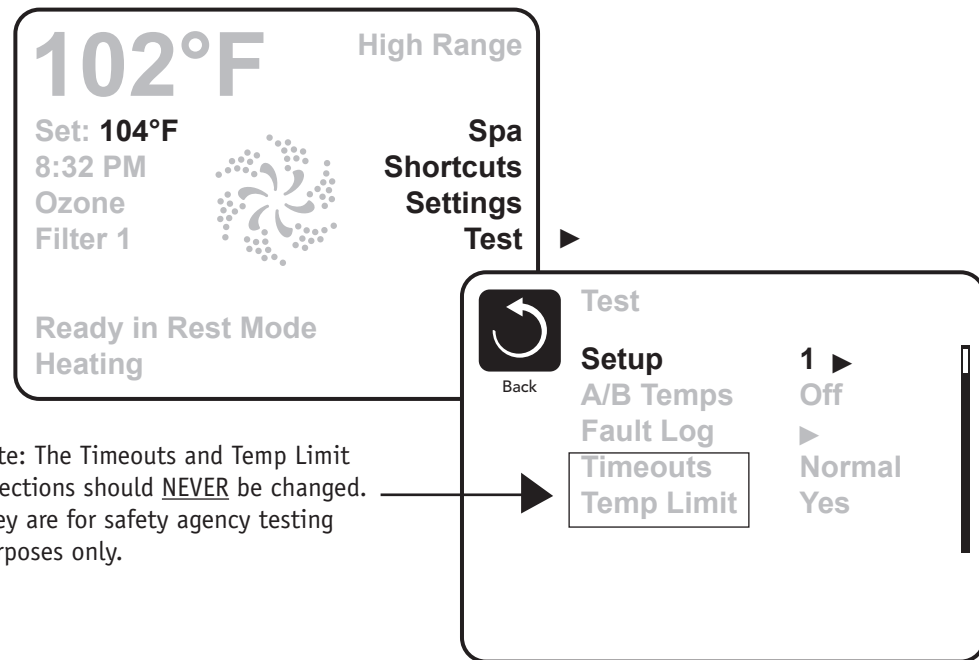
DANGER! HIGH VOLTAGE WILL BE ACCESSIBLE! SERVICE TECHNICIAN ONLY!

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.



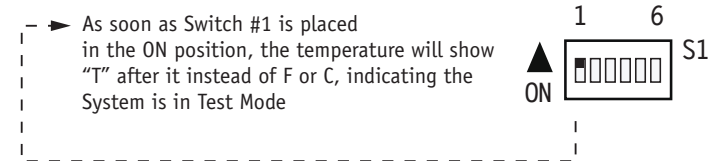
Note: The Timeouts and Temp Limit selections should NEVER be changed. They are for safety agency testing purposes only.

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.



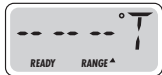
Software Setups

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

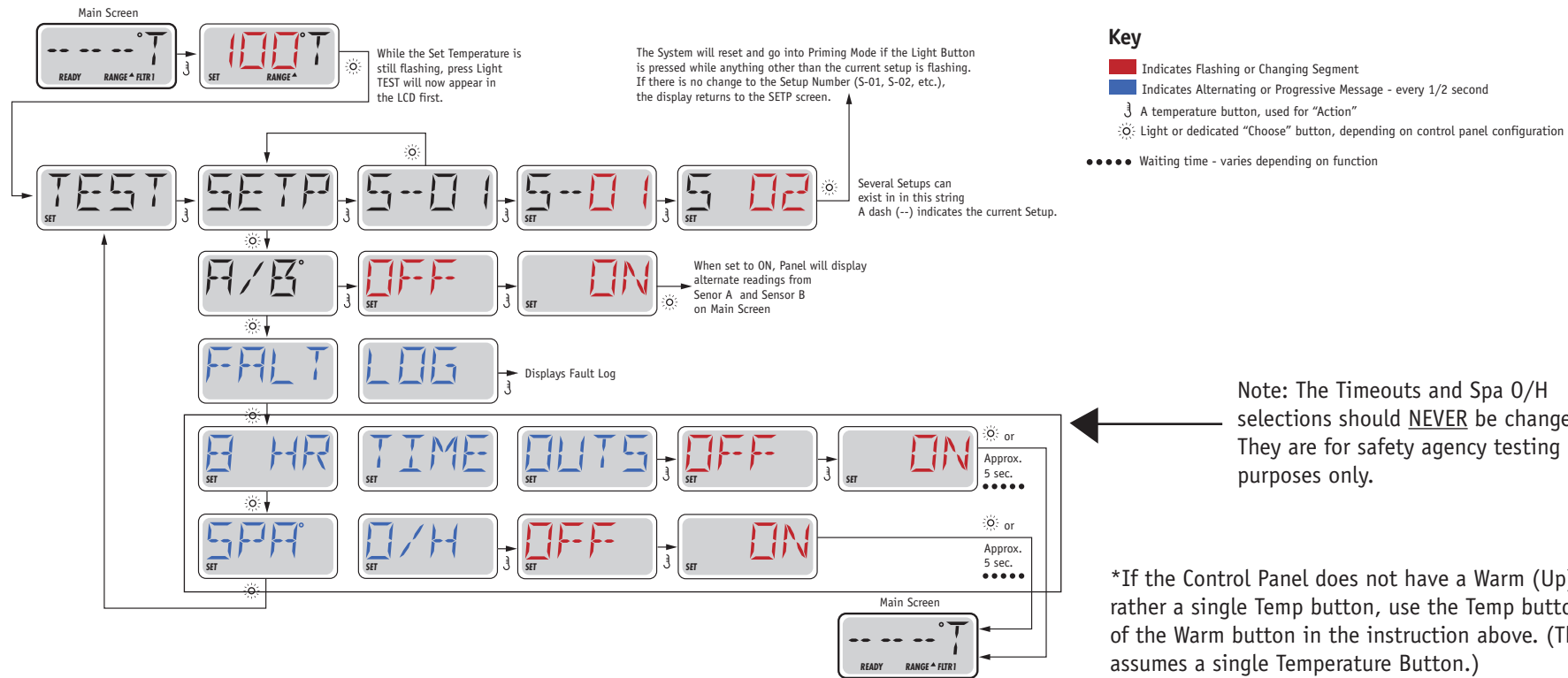
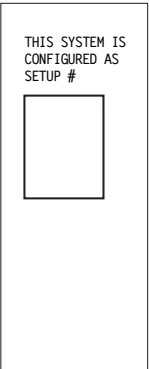
Again, **You will have 1 minute** to complete the setup change after you manually exit Priming Mode.

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)

Undefined

None

Relay 9/10 (J108)

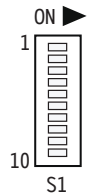
Undefined

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).
- A8 In "ON" position, 3-Phase Special Amperage Rule is enabled.
In "OFF" position, 3-Phase Special Amperage Rule is disabled.

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: 59557 3.0kW
Expander PCBA: N/A

HEATER(s):

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

CABLES:

25257 Y-Cable
25710 Adapter Cable
30895 Water Level

FUSES:

Part Number	Amperage*	Location
30136	30A	F6, F8
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
Mister Timer	15 Minutes
Light Timer	240 Minutes
Circ (when enabled)	Programmable + Polling
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 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)

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	1 High Speed Pump Maximum, and also Blower turns off with 1 High Speed Pump
3-Phase Special Amperage Rule	Pumps in Group 3 (ie, Pump 1) are the only ones which turn the Electric Heater and Clim8zone™ Off Pumps or Blower not in Group 3 (eg, Pump 2) do not turn the Electric Heater and Clim8zone™ Off
Drain Mode	Disabled
Demo Mode	Disabled
GFCI Trip	Not Applicable for CE Models
Ozone Slaved to Heater Pump	<i>Yes in circ setups</i> <i>No in non-circ setups</i>
Dual Voltage Heater	Always Input Voltage
Safety Suction	Disabled

TP900 Panel Configuration

Button Layout Table

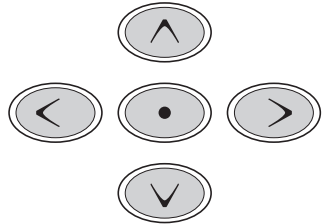
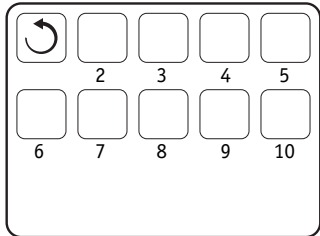
Feature #	Setups 10 & 12	Setups 1, 3 & 7	Setup 13	Setups 4 & 8	Setup 14	Setups 5 & 9	Setup 11	Setups 2 & 6
A1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A2	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
A3	Jets 2	Jets 2	Blower	Blower	Light 1	Light 1	Jets 2	Jets 2
A4	Light 1	Light 1	Light 1	Light 1	Invert	Invert	Blower	Blower
A5	Invert	Invert	Invert	Invert	Undefined	(Circ Icon)	Light 1	Light 1
A6	Undefined	(Circ Icon)	Undefined	(Circ Icon)	Undefined	Undefined	Invert	Invert
A7	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	(Circ Icon)
A8	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A9	Undefined	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	Jets 1	Jets 1	Jets 1
A14	Jets 2	Jets 2	Blower	Blower	Undefined	Undefined	Jets 2	Jets 2
A15	Light 1	Light 1	Light 1	Light 1	Light 1	Light 1	Blower	Blower
A16	Invert	Invert	Invert	Invert	Invert	Invert	Light 1	Light 1

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

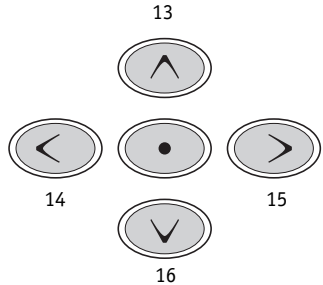
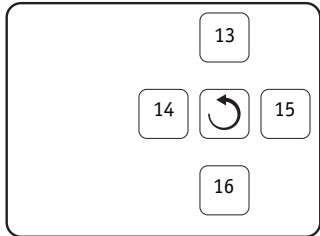
TP900 Panel Configuration

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.

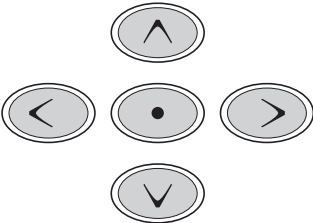
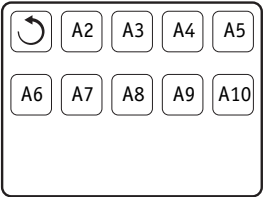
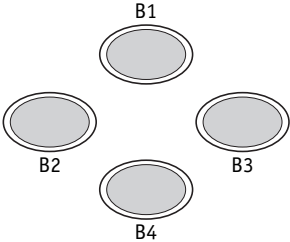
TP800 Panel Configuration

Button Layout Table

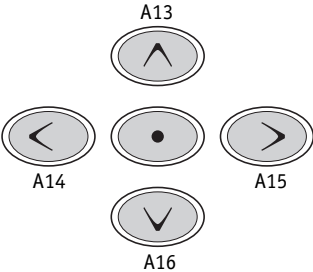
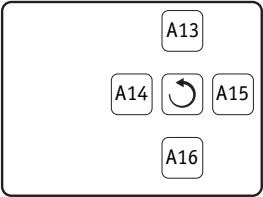
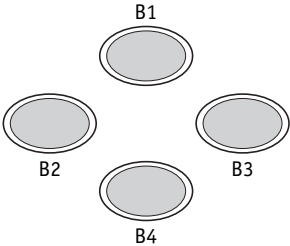
Feature #	Setups 10 & 12	Setups 1, 3 & 7	Setup 13	Setups 4 & 8	Setup 14	Setups 5 & 9	Setup 11	Setups 2 & 6
A1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
A2	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1	Jets 1
A3	Jets 2	Jets 2	Blower	Blower	Light 1	Light 1	Jets 2	Jets 2
A4	Light 1	Light 1	Light 1	Light 1	Invert	Invert	Blower	Blower
A5	Invert	Invert	Invert	Invert	Undefined	(Circ Icon)	Light 1	Light 1
A6	Undefined	(Circ Icon)	Undefined	(Circ Icon)	Undefined	Undefined	Invert	Invert
A7	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	(Circ Icon)
A8	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A9	Undefined	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	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A14	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A15	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined	Undefined
A16	Undefined	Undefined	Undefined	Undefined	Undefined	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	Undefined	Undefined	Undefined	Undefined	Jets 2	Jets 2
B3	Undefined	Undefined	Blower	Blower	Undefined	Undefined	Blower	Blower
B4	Light 1	Light 1	Light 1	Light 1	Light 1	Light 1	Light 1	Light 1

TP800 Panel Configuration

Spa Screen



Shortcuts Screen



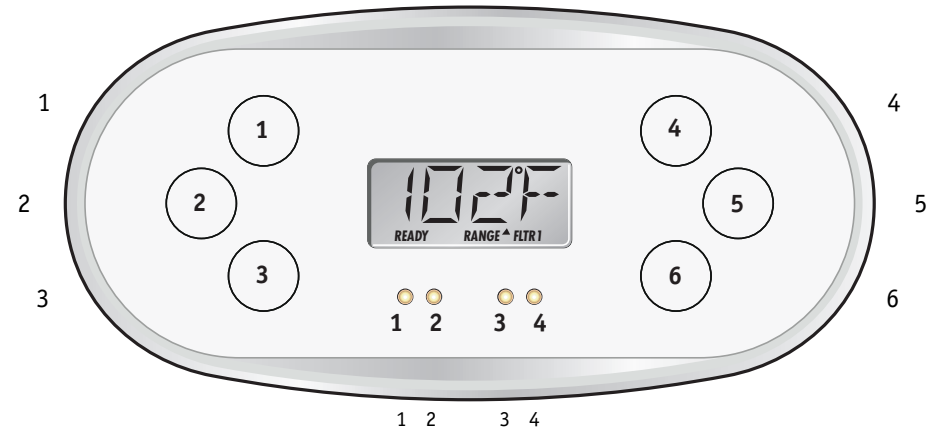
Note: Buttons 11 and 12 are not used in this configuration.
Button 1 is fixed.

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

TP600 Panel Configuration

Button Layout Table

Button #	Setups 1, 3, 7, 10 & 12	Setups 4, 8 & 13	Setups 5, 9 & 14	Setups 2, 6 & 11
1	Jets 1	Jets 1	Jets 1	Jets 1
2	Jets 2	Blower	Undefined	Jets 2
3	Invert	Invert	Invert	Blower
4	Up	Up	Up	Up
5	Light 1	Light 1	Light 1	Light 1
6	Down	Down	Down	Down
LED 1	Jets 1	Jets 1	Jets 1	Jets 1
LED 2	Jets 2	Blower	Undefined	Jets 2
LED 3	Light 1	Light 1	Light 1	Light 1
LED 4	Heat On	Heat On	Heat On	Heat On



TP600

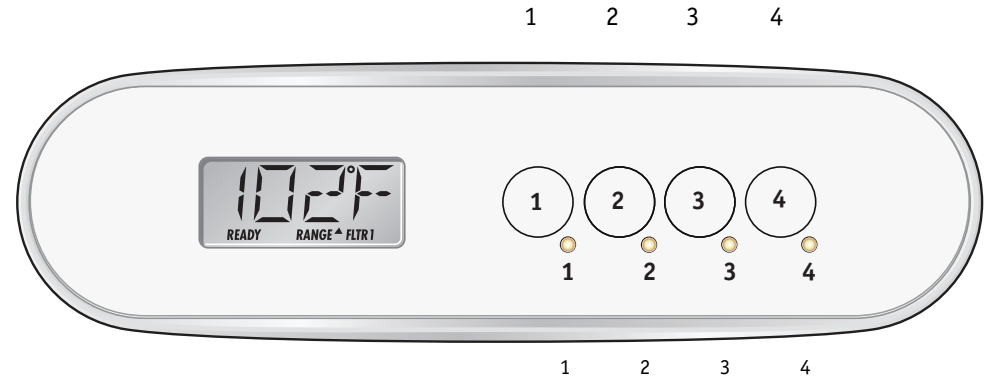
55676-XX

No Overlay

TP400 Panel Configuration

Button Layout Table for TP400T

Button #	Setups 1, 3, 7, 10 & 12	Setups 4, 8 & 13	Setups 5, 9 & 14
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 2, 6 & 11.

TP400T CE

50260-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).

TP400W CE

50259-XX

Includes overlay PN 12510.

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	Blower
Aux Button A8	Light

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.

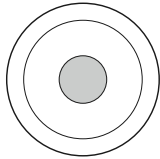
Aux Connection Splitter PN 25257 may be required.

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.

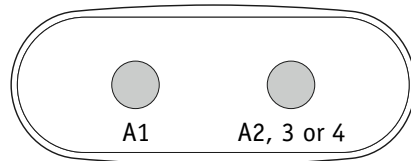
AX10 Panels on Bank 2*

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

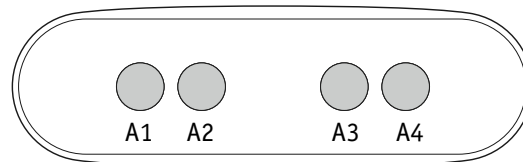
AX20 A1A2	No O/L	52800
AX20 A1A3	No O/L	52801
AX20 A1A4	No O/L	52802



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
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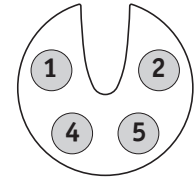


AX40 Auxiliary Panel plugged into Bank 1 will operate A1 + A2, A3 and A4.
AX40 Auxiliary Panel plugged into Bank 2 will operate A5 + A6, A7 and A8.

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	Blower
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 _____