

BP6013G1 Tech Sheet



Customer: Balboa Water Group

Part Number: 56610-05 800 Incoloy 3kW
56611-05 825 Incoloy 3kW
56612-05 Titanium 3kW
56731-04 800 Incoloy 2kW

Custom Box Overlay ☐
Box Overlay Part Number N/A

CE System Model For 3.0kW: BP21-BP6013G1-RCA3.0K

CE System Model For 2.0kW: BP21-BP6013G1-RCA2.0K

Software Version ID: M100_226 V37.0

Software Version: 37.0

File Name: BP6013_37.0_BP6013G1.hex

Configuration Signature: 1B456746

Eng. Project Number: 4890

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) |
| TP800 | Version 3.1 and later (Version 3.13 or later required for bba™; version 4.11 or later required for bba™ 2 integrated functionality) |
| TP600 | Version 2.7 and later (Version 2.12 or later required for bba™/bba™ 2 On/Off control via menu) |
| TP400T CE | Version 2.7 and later (TP400T US should <u>not</u> be used) (Version 2.12 or later required for bba™/bba™ 2 On/Off control via menu) |
| TP400W CE | Version 2.7 and later (TP400W US should <u>not</u> be used) (Version 2.12 or later required for bba™/bba™ 2 On/Off control via menu) |



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2014 Balboa Water Group.

System Revision History

| Part # | EPN | Date | Originator | Changes Made |
|--|------|----------|------------|---|
| ZT000101 | 4305 | 05-06-14 | BWG | Stripped-down version of BP2100 board, with the same Setups as in BP601G1, plus 3 additional Setups (with Circ pump plus 2-Speed Pump 1), but with multiple services supported. No remote support, no real-time clock, & no low speed relay for Pump 2. |
| 56610 56611 56612 | 4305 | 07-08-14 | BWG | Release to production. |
| 56610-01 56611-01 56612-01 | 4354 | 08-07-14 | BWG | Rename from BP1900G1 to BP6013G1. |
| 56731 | 4466 | 02-18-15 | Sales | Create 2.0kW Version. |
| 56610-02 56611-02 56612-02 56731-01 | 4489 | 03-20-15 | BWG | BWG update with plug and click heater. |
| 56610-03 56611-03 56612-03 56731-02 | 4601 | 09-30-15 | BWG | Update to latest software version, including faster return to heating after high-speed pumps turn OFF, in amperage-restricted situations. |
| 56610-04 56611-04 56612-04 56731-03 | 4776 | 10-26-16 | BWG | Updated to latest software version, adding topside-intergrated bba™2 support. Released to production. |
| 56610-05 56611-05 56612-05 56731-04 | 4890 | 06-05-17 | BWG | Updated to latest software version, adding bba™/bba™2 On/Off support to TP600/TP400 Menus. Released to production. |
| | | | | |

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

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

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

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2014 Balboa Water Group.



Basic Functions Setup 1-9

Power Requirements:

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

230VAC, 50/60Hz*, 1p, 16A/32A, (Circuit Breaker rating = 20A/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.)

* 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.

Migrating from BP601G1:

If you are migrating from the BP601G1 model to this BP6013G1 model:

- The first 6 Setups are the same as the 6 Setups in the BP601G1.
- The remaining 3 Setups are new Setups that allows a 2-Speed Pump1 to be used along with a Circ Pump (which is not possible on the BP601G1).

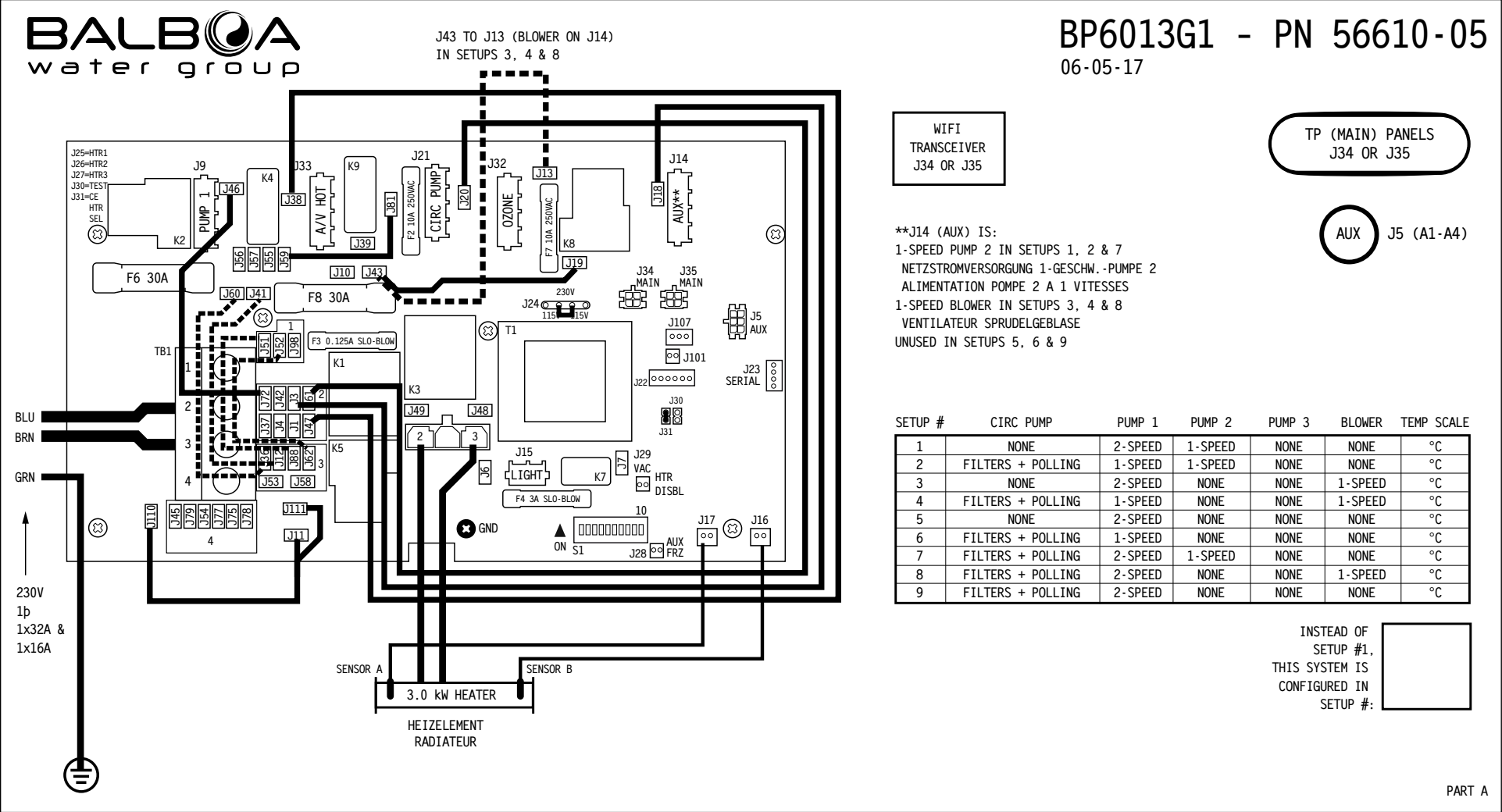
Basic Functions Setup 1-9

System Outputs:

| | | | | |
|--------------|--------------------|---|----------------|--|
| Pump 1 | 230VAC | 2-Speed | 6.5A - 12A max | 15-minute timer (30-minute timer for P1 Low in non-circ setups only) |
| | | 1 Speed in Setups in Setups 2, 4, 6 | | |
| | | Pump size is dependent on service available (16A vs. 32A), other equipment installed, and if A5 is set to ON for Special Amperage Rule B. in Setups 1, 3, 5, this is the heater pump. | | |
| | | Must deliver 20 GPM through heater | | |
| Pump 2 | 230VAC | 1-Speed | 6.5A - 12A max | 15-minute timer |
| | | Pump size is dependent on service available (16A vs. 32A), other equipment installed, and if A5 is set to ON for Special Amperage Rule B. Used in setups 1, 2 & 7 | | |
| Blower | 230VAC | 1-Speed | 4A max | 15-minute timer |
| | | Used in Setup 3, 4 & 8 | | |
| Circ Pump | 230VAC | 1-Speed | 2A max | Programmable Filtration Cycles + Polling |
| | | This is the heater pump in Setups 2, 4, 6 - 9. | | |
| | | Must deliver 20 GPM through heater | | |
| Ozone | 230VAC | | .5A max | Slaved to Circ Pump in Circ Setups 2, 4, 6 - 9. |
| | | | | Independent in Non-Circ Setups 1, 3 & 5. |
| Spa Light | 10VAC | On/Off | 1A max | 240-minute timer. |
| A/V (Stereo) | 230VAC | Hot | 4A max | Always on |
| Heater | 3.0kW @ 240VAC max | | | |
| | 2.0kW @ 240VAC max | | | |

Hardware Setup

Wiring Diagram



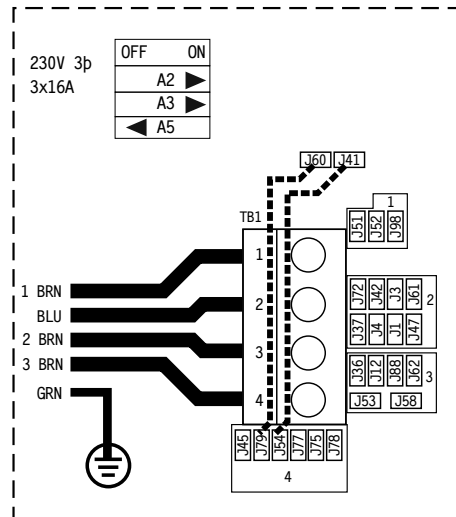
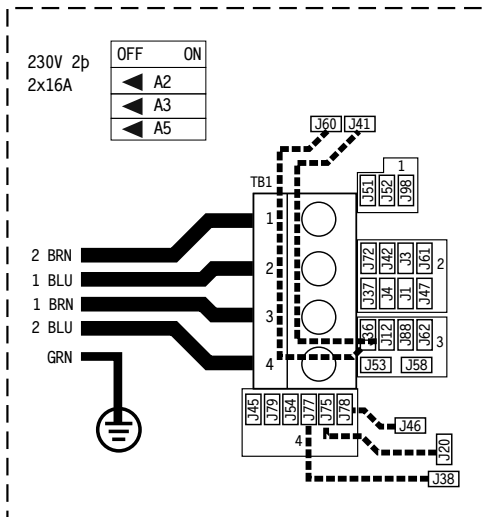
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Hardware Setup

Settings

SINGLE SERVICE 230V 1p / 1x32A & 1x16A, TWO-SERVICE 230V 2p / 2x16A, THREE-SERVICE 230V 3p / 3x16A

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



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

SWITCHBANK S1 OFF

230V 1p
1x32A

| 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.

SWITCHBANK S1 OFF

230V 1p
1x16A

| 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.

BP6013G1 - PN 56610-05
06-05-17

PART B

Setup Reference Table

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

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

Changing Software Setups with spaTouch™ Icon-Driven Panels

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

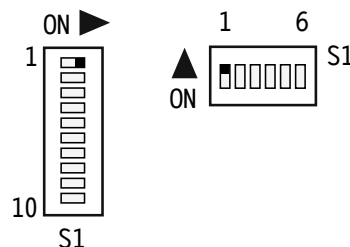
DANGER! HIGH VOLTAGE WILL BE ACCESSIBLE! SERVICE TECHNICIAN ONLY!

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

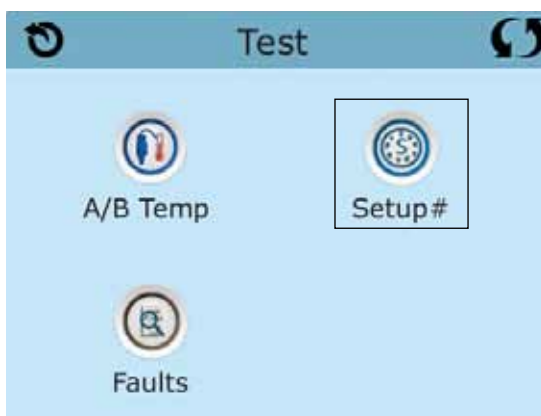
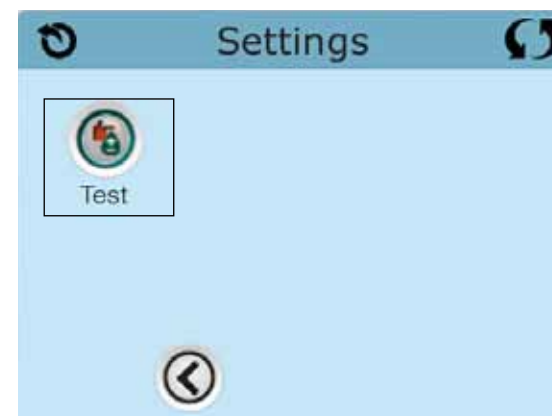
Moving DIP Switch 1 to OFF will exit Test Mode.

To Change Software Setups:

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



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



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

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



Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2014 Balboa Water Group.

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

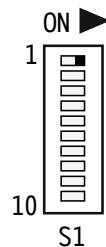
Test Menu Access (S1, Switch 1 ON) *Service Technician ONLY.*

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.

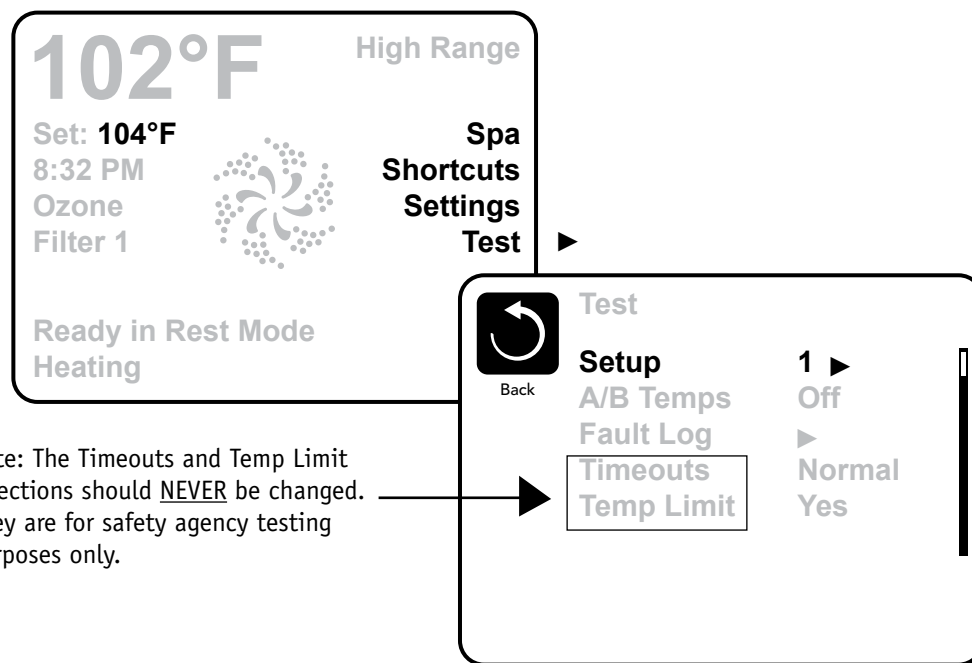
Moving DIP Switch 1 to OFF will exit Test Mode.



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.



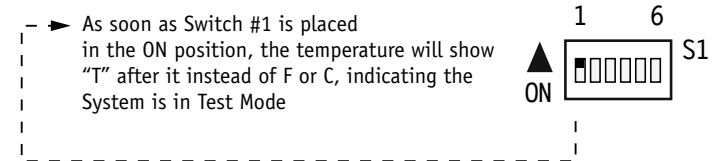
Note: The Timeouts and Temp Limit selections should NEVER be changed. They are for safety agency testing purposes only.

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.



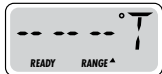
Software Setups

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.

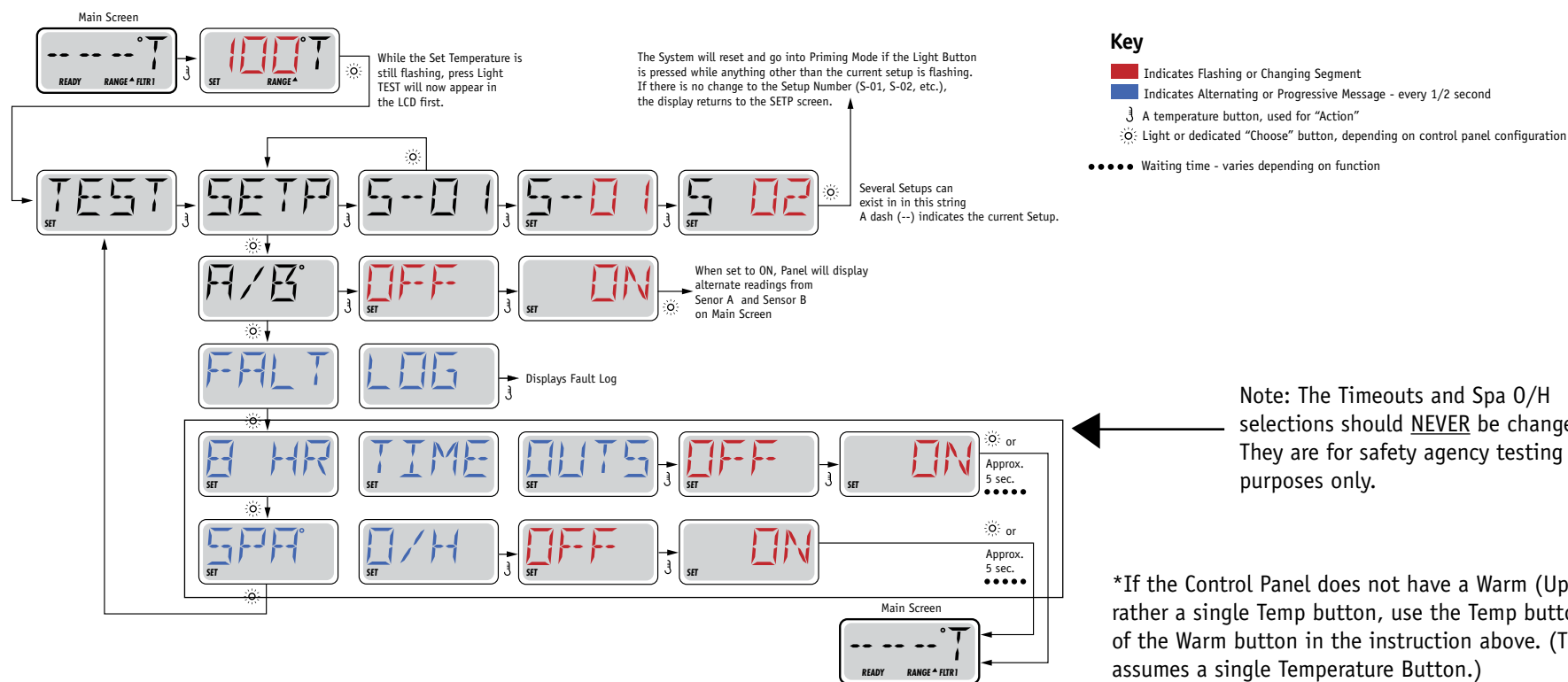
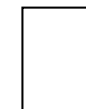
Immediately after exiting Priming Mode, press this sequence of buttons: Warm*, Light, Warm, Warm, Warm, Warm. Continue to press Warm until the display shows the Setup Number (S-01, S-02, etc.) you want to switch to. When the correct setup number is showing, press Light once, and the system will reset,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

THIS SYSTEM IS
CONFIGURED AS
SETUP #



Equipment Expansion

Expansion Features

| Control Connection | Default | Fuse |
|--------------------|-----------|------|
| Relay 1 (J101) | Undefined | None |
| Relay 7/8 (J107) | Undefined | None |

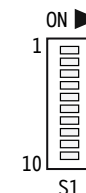
Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2014 Balboa Water Group.



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 | Not present on BP6013 board. | |
| J91 | Not present on BP6013 board. | |
| 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 | Not present on BP6013 board. | |
| 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  |

Warning!

Setting DIP switches or jumpers incorrectly may cause abnormal system behavior and/or damage to system components.
Refer to Switchbank illustration on Wiring Configuration page for correct settings for this system.
Contact Balboa if you require additional configuration pages added to this tech sheet.

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2014 Balboa Water Group.

Replacement Parts

PCBA:

| | |
|----------------|--|
| Main PCBA: | 56613-04 3.0kW Models 56732-03 2.0kW Models |
| Expander PCBA: | N/A |

HEATER(s):

| | |
|--------------------------|---|
| Plug + Click Heater Kit: | 58300 3.0kW 800 Inc 58301 3.0kW 825 INC 58302 3.0kW Titanium 58289 2.0kW 800 Inc |
| Temp Sensor Kit: | 53605 |

CABLES:

N/A

FUSES:

| Part Number | Amperage | Location |
|-------------|----------|----------|
| 30136 | 30A | F6, F8 |
| 20600 | 3A | F4 |
| 26397 | 1/8A | F3 |
| 30122 | 10A | F2, F7 |

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BP6013 Configuration Options

General Features

| Feature | Default | |
|------------------------------------|--------------------------------|--|
| Pump 1 in Filter Cycle (Circ Only) | No | |
| Pump 1 Low Timer | 30 Minutes | Applies in non-circ Setups (configurations) only |
| General Pump Timer | 15 Minutes | Applies to all pumps, except Pump 1 low in Non-Circ Setups |
| 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.

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BP6013 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 2014 Balboa Water Group.

BP6013 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 2014 Balboa Water Group.

BP6013 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 2014 Balboa Water Group.

BP6013 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 |
| 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 |

TP800 Panel Configuration

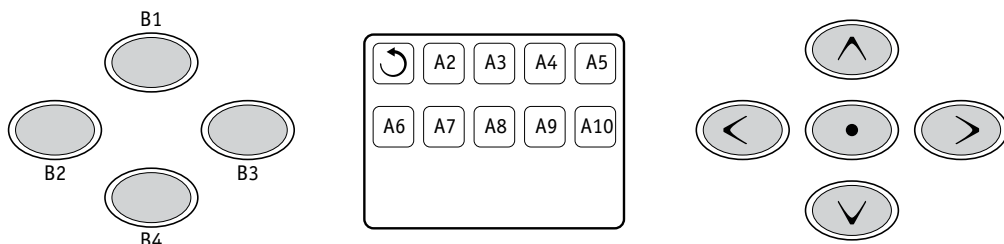
Button Layout Table

| Feature # | Setup 1 | Setups 2 & 7 | Setup 3 | Setups 4 & 8 | Setup 5 | Setups 6 & 9 |
|-----------|-----------|--------------|-----------|--------------|-----------|--------------|
| A1 | 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 |
| A3 | Jets 2 | Jets 2 | Blower | Blower | Light 1 | Light 1 |
| A4 | Light 1 | Light 1 | Light 1 | Light 1 | Invert | Invert |
| A5 | Invert | Invert | Invert | Invert | Undefined | (Circ Icon) |
| A6 | Undefined | (Circ Icon) | Undefined | (Circ Icon) | Undefined | Undefined |
| A7 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| A8 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| A9 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| A10 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| A11 | 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 |
| A13 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| A14 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| A15 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| A16 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| B1 | Jets 1 | Jets 1 | Jets 1 | Jets 1 | Jets 1 | Jets 1 |
| B2 | Undefined | Undefined | Undefined | Undefined | Undefined | Undefined |
| B3 | Jets 2 | Jets 2 | Blower | Blower | Undefined | Undefined |
| B4 | Light 1 | Light 1 | Light 1 | Light 1 | Light 1 | Light 1 |

Manufactured under one or more of these patents. U.S. Patents: 5332944, 5361215, 5550753, 5559720, 5,883,459, 6253227, 6282370, 6590188, 6976052, 6965815, 7030343, 7,417,834 b2, Canadian Patent: 2342614, Australian patent: 2373248 other patents both foreign and domestic applied for and pending. © Copyright 2014 Balboa Water Group.

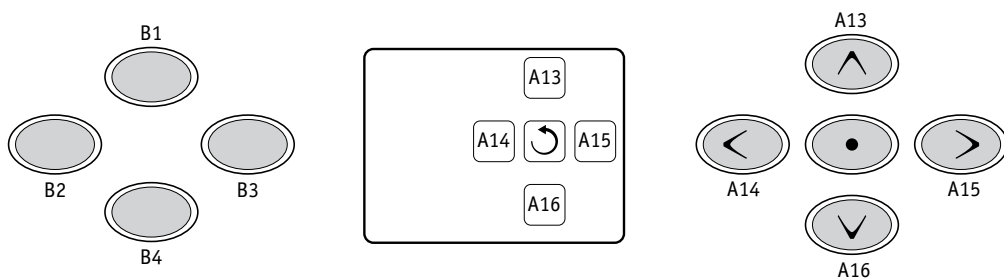
TP800 Panel Configuration

Spa Screen



Note: Button B2 is ALWAYS unused on TP800 when used with this system. A custom overlay will be required.

Shortcuts Screen



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

Button 1 is fixed.

TP600 Panel Configuration

Button Layout Table

| Button # | Setups 1, 2 & 7 | Setups 3, 4 & 8 | Setups 5, 6 & 9 |
|----------|-----------------|-----------------|-----------------|
| 1 | Jets 1 | Jets 1 | Jets 1 |
| 2 | Jets 2 | Blower | Undefined |
| 3 | Invert | Invert | Invert |
| 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 | Undefined |
| LED 3 | Light 1 | Light 1 | Light 1 |
| LED 4 | Heat On | Heat On | Heat On |



TP600

55676-XX

No Overlay

TP400 Panel Configuration

Button Layout Table for TP400T

| Button # | Setups 1, 2 & 7 | Setups 3, 4 & 8 | Setups 5, 6 & 9 |
|----------|-----------------|-----------------|-----------------|
| 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 |

Button Layout Table for TP400W

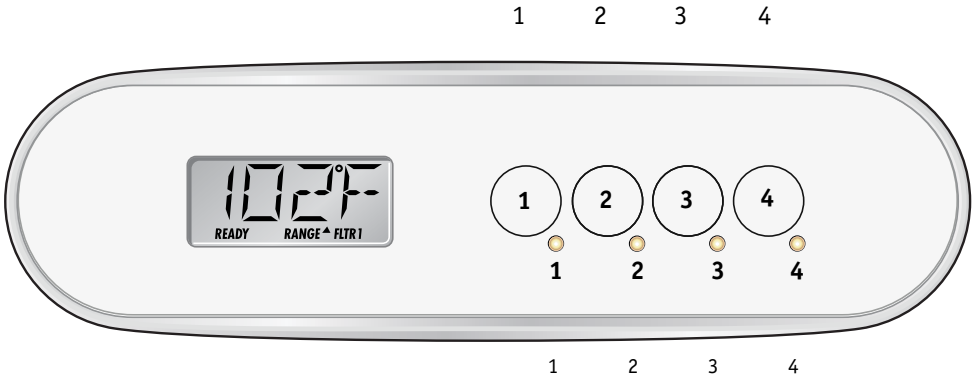
| Button # | All Setups |
|----------|------------|
| 1 | Up |
| 2 | Down |
| 3 | Light 1 |
| 4 | Jets 1 |
| LED 1 | Heater ON |
| LED 2 | Undefined |
| LED 3 | Light ON |
| LED 4 | Jets 1 ON |

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

TP400W CE

50259-XX

Includes overlay PN 12510.



TP400T CE

50260-XX

Includes overlay PN 12511.

BP6013 Configuration Options

Auxilliary Panel Features on Bank 1*

| Feature | Default |
|---------------|--|
| Aux Button A1 | Jets 1 |
| Aux Button A2 | Jets 2 in Setups 1, 2 & 7 Blower in Setups 3, 4 & 8 Undefined in Setups 5, 6 & 9 |
| Aux Button A3 | Undefined |
| Aux Button A4 | Light |

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

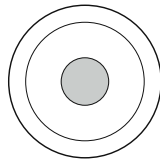
Buttons that are assigned to equipment that is not defined in a Setup will not do anything in that Setup.

BP6013 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 |

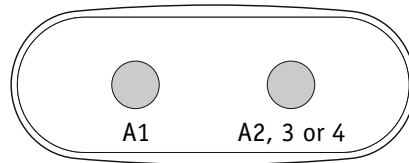


Call Customer Service for additional information about Auxiliary Panels.

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

AX20

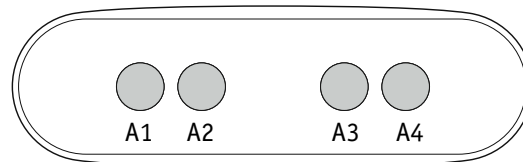
| | | |
|-----------|--------|-------|
| AX20 A1A2 | No O/L | 52800 |
| AX20 A1A3 | No O/L | 52801 |
| AX20 A1A4 | No O/L | 52802 |



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

AX40

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



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

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