

BP1600 Tech Sheet

Balboa Water Group

System Part Numbers: **55746** 3kW 800 Incoloy Element
 55748 3kW 800 Titanium Element

Compatible Plumbing Kits (Coupling nuts and seals included)

55911 2" Tailpieces (2-Speed Pump 1)
55914 1.5" Tailpieces (2-Speed Pump 1)
55912 1" Tailpiece Inserts (Circ)
55913 One Direct Circ Pump Coupling and one 1" Tailpiece Insert

System Model: BP1600
Software ID: M100_205 V3
Software Version: 3.0
Hex File: BP1600_3.0_BP16G6SU.hex
Configuration Signature: D3AC6D47

Eng. Project: 3351

Base PCBs / PCBA's:

Power Board: 22117_B / 56054
Logic Board: 22121_C / 55747

Control Panels:

TP600CE 50014
TP600 (non-CE) should not be used
Software Version 1.0 and later

Auxiliary Panels

AX10A2 55919



User Interface and Programming Guide:
http://service.balboa-instruments.com/zz40940_download.zip



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. All material copyright of Balboa Water Group.

System Revision History

Part #	EPN	Date	Originator	Changes Made
55746 and 55748	3351	03-09-10	Balboa	Initial Generic Configuration 800 Incoloy and Titanium models Initial release



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Plumbing Fittings



2" Tailpiece kit PN 55911.

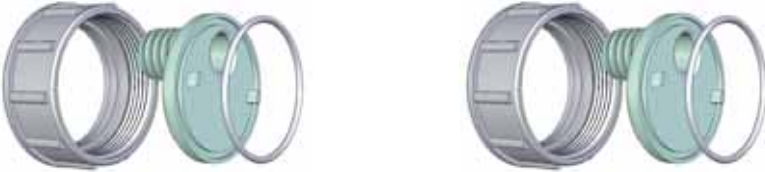
Standard 2" sockets to glue up to 2" PVC pipe.



Not Immediately Available.

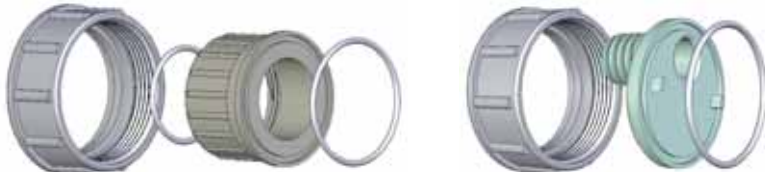
1.5" Tailpiece kit PN 55914.

1.5" sockets to glue up to 1.5" PVC pipe with the I.D.
Be sure to orient the fittings so that the insert is at the 12:00 position to prevent trapped air.



1" Circ Pump Insert kit PN 55912.

1" barb fittings for use with 1" tubing.
Be sure to orient the fittings so that the insert is at the 12:00 position to prevent trapped air.



Not Immediately Available.

1" Circ Pump Insert kit PN 55913.

One fitting for direct coupling to the threaded suction of an appropriately-sized circ pump. A 1" barb fitting for use with 1" tubing is used on the other end of the heater.
Be sure to orient the fittings so that the insert is at the 12:00 position to prevent trapped air.



Setup 1-16 – As Manufactured

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
 230VAC, 50Hz, 1p, 16A, (Circuit Breaker rating = 20A max.)

System Outputs - 16A Service:

- Pump 1 230VAC 2-Speed 7.5A max 120-minute timer for Low Speed, 15 Minutes for High Speed
 This is the heater pump
 Must deliver a minimum of 20 GPM through heater
 Low Speed may not exceed 2A max
- Pump 2 230VAC 1-Speed 7.5A max 15-minute timer
- Ozone 230VAC .5A max Uses the same relay as Pump 1 Low
- Spa Light 10VAC On/Off .25A max 4-Hour timer.
Light output is rated for LED lighting only - NOT for use with incandescent lights.
- Heater 3kW @ 240VAC

Wiring Diagram and Settings

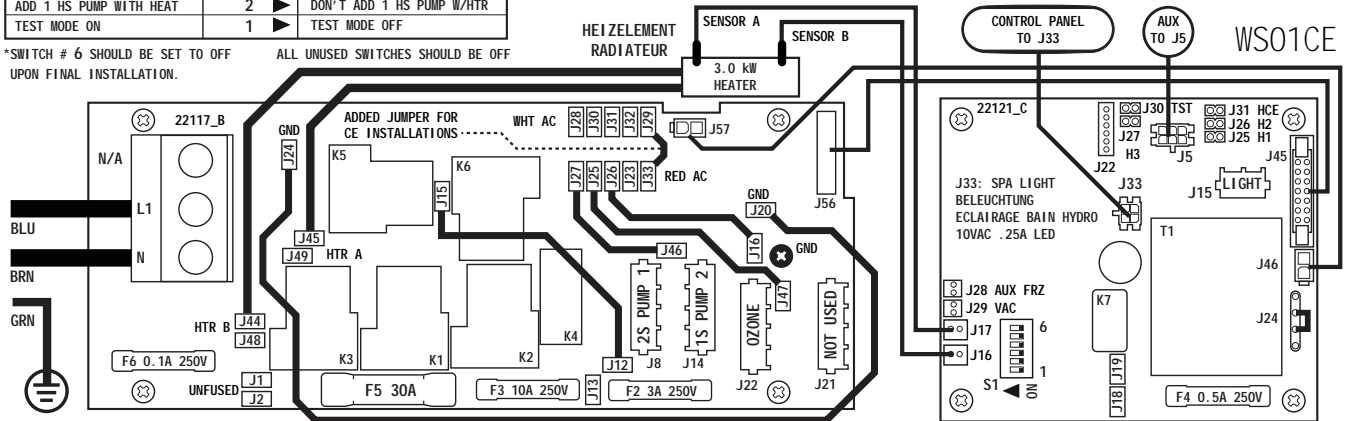
ON POSITION	S1 SWITCH #	OFF POSITION
MEMORY RESET*	6	STORE SETTINGS*
SPECIAL AMPERAGE RULE ON	5	SPECIAL AMPERAGE RULE OFF
ADD 4 HS PUMPS WITH HEAT	4	DON'T ADD 4 HS PUMPS W/HTR
ADD 2 HS PUMPS WITH HEAT	3	DON'T ADD 2 HS PUMPS W/HTR
ADD 1 HS PUMP WITH HEAT	2	DON'T ADD 1 HS PUMP W/HTR
TEST MODE ON	1	TEST MODE OFF

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



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)



DIP Switch Option

Orig. Setup 1

Changes to

Special Amperage Rule ON DIP Switch 5 OFF *DIP Switch 5 ON*

Use this only in cases where there is an overcurrent condition due to pump size.

This setting will not allow Pump 1 High and Pump 2 to run at the same time.



Refer to Page 3 to choose a suitable Plumbing Kit.

Setup 1-32

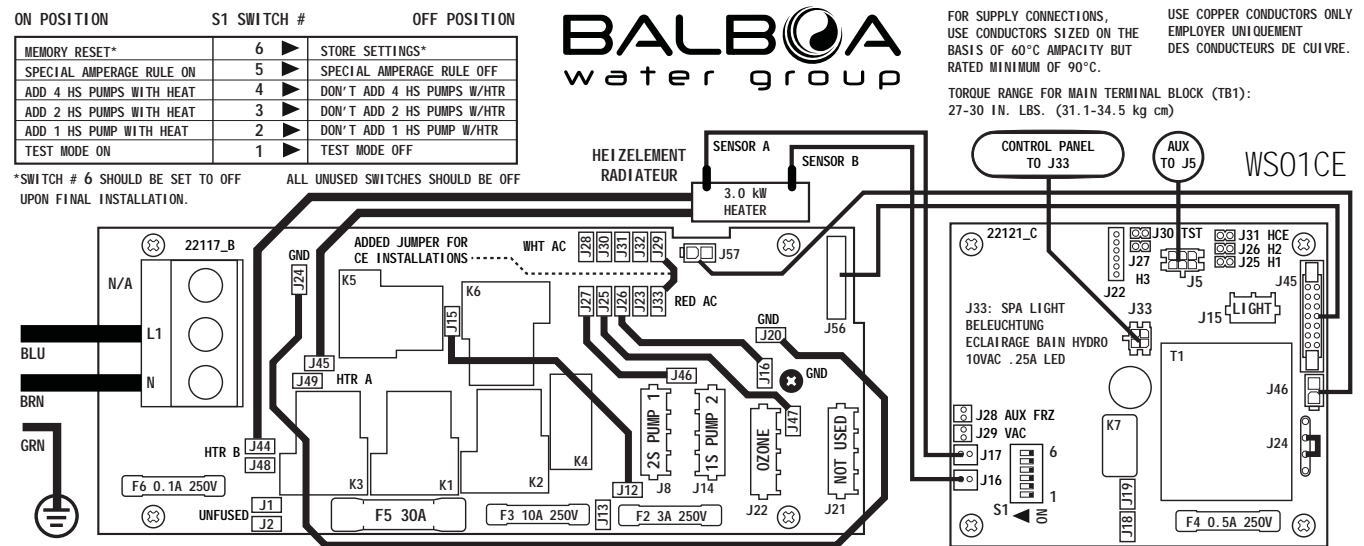
Power Requirements:

Single Service [3 wires (line, neutral, ground)]
230VAC, 50Hz, 1p, 32A, (Circuit Breaker rating = 40A max.)

System Outputs - 32A Service:

Pump 1	230VAC	2-Speed	12A max	120-minute timer for Low Speed, 15 Minutes for High Speed
				This is the heater pump Must deliver a minimum of 20 GPM through heater
Pump 2	230VAC	1-Speed	12A max	15-minute timer
Ozone	230VAC		.5A max	Uses the same relay as Pump 1 Low
Spa Light	10VAC	On/Off	.25A max	4-Hour timer.
				Light output is rated for LED lighting only - NOT for use with incandescent lights.
Heater	3kW @ 240VAC			
Misc.	J23 & J32	230VAC	4A max	Hot output (Stereo). Fused equipment or in-line fuse required.

Wiring Diagram and Settings



Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J23 & J13.	Hot Output.	<i>Useable</i>
DIP Switch Option	Orig. Setup 1	Changes to
Add 1 High Speed Pump with Heat	DIP Switch 2 OFF.	<i>DIP Switch 2 ON</i>

Refer to Page 3 to choose a suitable Plumbing Kit.



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Setup 2-16

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
230VAC, 50Hz, 1p, 16A, (Circuit Breaker rating = 20A max.)

System Outputs - 16A Service:

Pump 1 230VAC 1-Speed 6.5A max 15-minute timer
 Pump 2 230VAC 1-Speed 6.5A max 15-minute timer
 Circ Pump 230VAC 1-Speed 2A max Programmable Filtration Cycles + Polling
 This is the heater pump
 Must deliver a minimum of 20 GPM through heater

Ozone 230VAC .5A max Uses the same relay as the Circ Pump
 Spa Light 10VAC On/Off .25A max 4-Hour timer.

Light output is rated for LED lighting only - NOT for use with incandescent lights.

Heater 3kW @ 240VAC

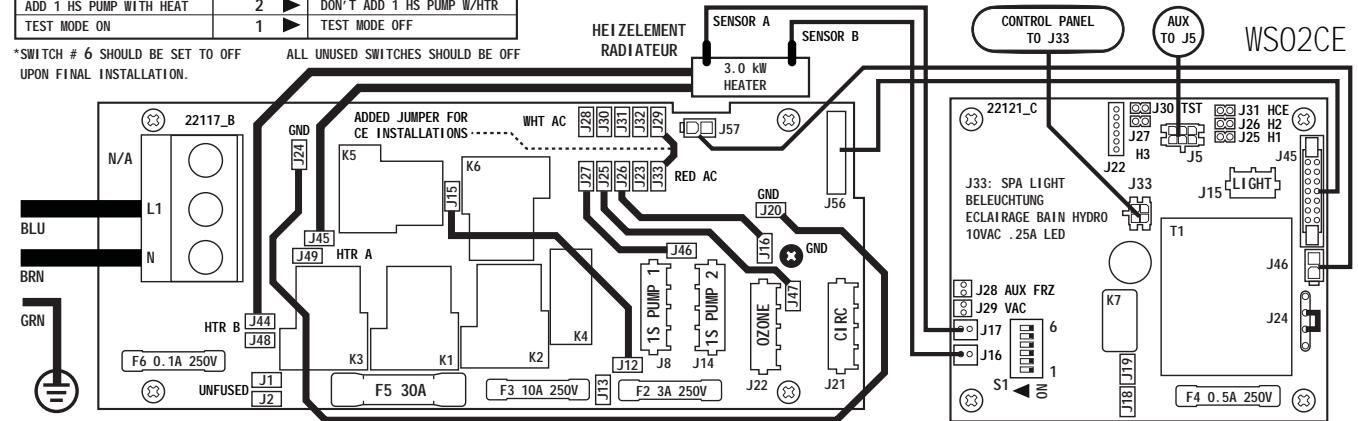
Wiring Diagram and Settings

ON POSITION	S1 SWITCH #	OFF POSITION
MEMORY RESET*	6	STORE SETTINGS*
SPECIAL AMPERAGE RULE ON	5	SPECIAL AMPERAGE RULE OFF
ADD 4 HS PUMPS WITH HEAT	4	DON'T ADD 4 HS PUMPS W/HTR
ADD 2 HS PUMPS WITH HEAT	3	DON'T ADD 2 HS PUMPS W/HTR
ADD 1 HS PUMP WITH HEAT	2	DON'T ADD 1 HS PUMP W/HTR
TEST MODE ON	1	TEST MODE OFF

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



Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J8	2-Speed Pump 1	1-Speed Pump 1
J21	Not Used (non-circ)	Circ Pump Enabled

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default



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Setup 2-32

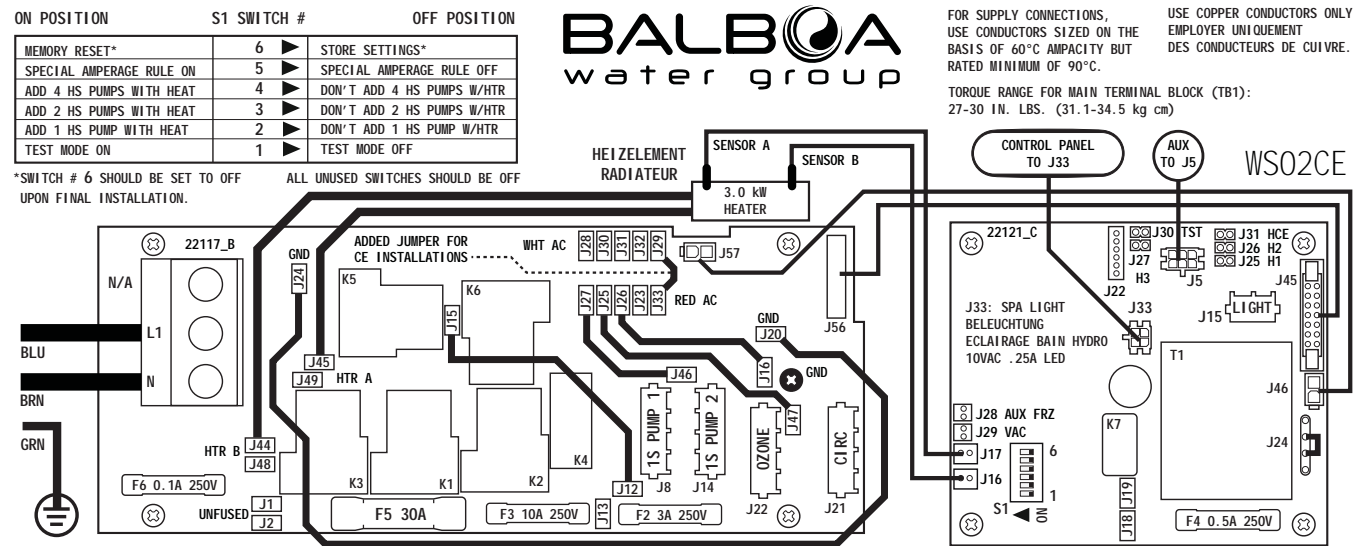
Power Requirements:

Single Service [3 wires (line, neutral, ground)]
 230VAC, 50Hz, 1p, 32A, (Circuit Breaker rating = 40A max.)

System Outputs - 32A Service:

Pump 1	230VAC	1-Speed	12A max	15-minute timer
Pump 2	230VAC	1-Speed	12A max	15-minute timer
Circ Pump	230VAC	1-Speed	2A max	Programmable Filtration Cycles + Polling
This is the heater pump Must deliver a minimum of 20 GPM through heater				
Ozone	230VAC		.5A max	Uses the same relay as the Circ Pump
Spa Light	10VAC	On/Off	.25A max	4-Hour timer.
Light output is rated for LED lighting only - NOT for use with incandescent lights.				
Heater	3kW @ 240VAC			
Misc.	J23 & J32	230VAC	3A max	Hot output (Stereo). Fused equipment or in-line fuse required.

Wiring Diagram and Settings



Configuration Changes based on Default

Feature	Orig. Setup 1	Changes to
J8	2-Speed Pump 1	<i>1-Speed Pump 1</i>
J21	Not Used (non-circ)	<i>Circ Pump Enabled</i>
J23 & J13	Hot Output	<i>Useable</i>

DIP Switch Option

Add 1 High Speed Pump with Heat DIP Switch 2 OFF *DIP Switch 2 ON*

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default

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Setup 3-16

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
 230VAC, 50Hz, 1p, 16A, (Circuit Breaker rating = 20A max.)

System Outputs - 16A Service:

- Pump 1 230VAC 2-Speed 10A max 120-minute timer for Low Speed, 15 Minutes for High Speed
 This is the heater pump
 Must deliver a minimum of 20 GPM through heater
 Low Speed may not exceed 2A max
- Blower 230VAC 1-Speed 4A max 15-minute timer
- Ozone 230VAC .5A max Uses the same relay as Pump 1 Low
- Spa Light 10VAC On/Off .25A max 4-Hour timer.
Light output is rated for LED lighting only - NOT for use with incandescent lights.
- Heater 3kW @ 240VAC

Wiring Diagram and Settings

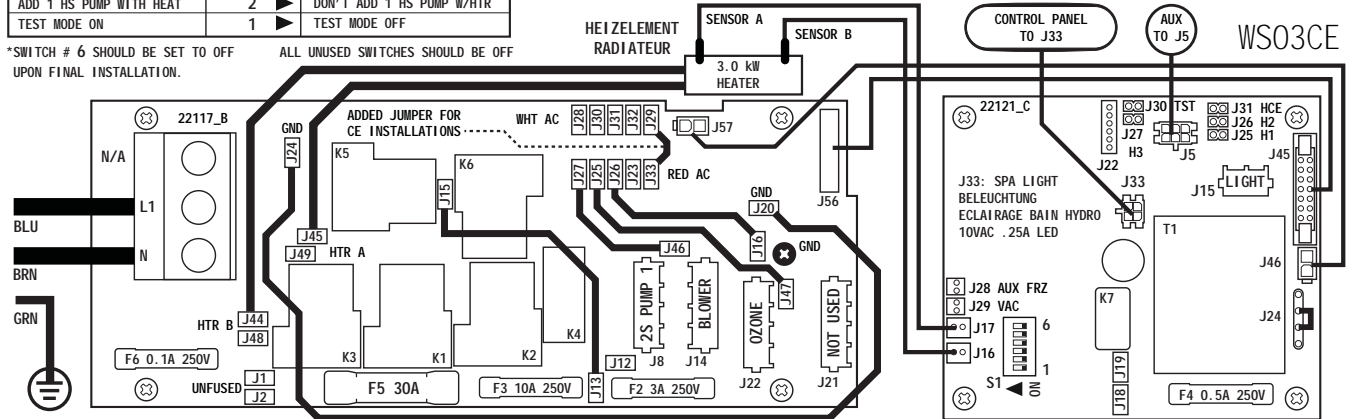
MEMORY RESET*	6	▶	STORE SETTINGS*
SPECIAL AMPERAGE RULE ON	5	▶	SPECIAL AMPERAGE RULE OFF
ADD 4 HS PUMPS WITH HEAT	4	▶	DON'T ADD 4 HS PUMPS W/HTR
ADD 2 HS PUMPS WITH HEAT	3	▶	DON'T ADD 2 HS PUMPS W/HTR
ADD 1 HS PUMP WITH HEAT	2	▶	DON'T ADD 1 HS PUMP W/HTR
TEST MODE ON	1	▶	TEST MODE OFF

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



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



Configuration Changes based on Default Feature

Orig. Setup 1 Changes to
 J14, TP600 Button 2, LED 2, AX10A2 Pump 2 *Blower*

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default

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Setup 3-32

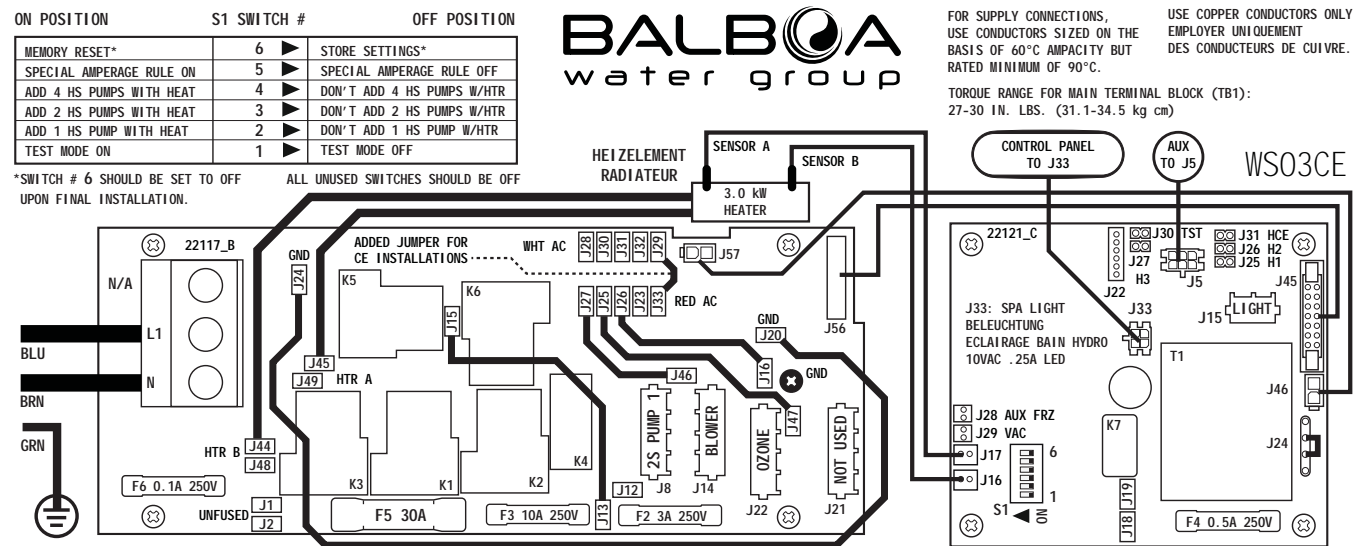
Power Requirements:

Single Service [3 wires (line, neutral, ground)]
230VAC, 50Hz, 1p, 32A, (Circuit Breaker rating = 40A max.)

System Outputs - 32A Service:

Pump 1	230VAC	2-Speed	12A max	120-minute timer for Low Speed, 15 Minutes for High Speed
This is the heater pump Must deliver a minimum of 20 GPM through heater				
Blower	230VAC	1-Speed	4A max	15-minute timer
Ozone	230VAC		.5A max	Uses the same relay as Pump 1 Low
Spa Light	10VAC	On/Off	.25A max	4-Hour timer.
Light output is rated for LED lighting only - NOT for use with incandescent lights.				
Heater	3kW @ 240VAC			
Misc.	J23 & J32	230VAC	3A max	Hot output (Stereo). Fused equipment or in-line fuse required.

Wiring Diagram and Settings



Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J14, TP600 Button 2, LED 2, AX10A2	Pump 2	<i>Blower</i>
J23 & J12	Hot Output	<i>Useable</i>

DIP Switch Option

Add 1 High Speed Pump with Heat DIP Switch 2 OFF *DIP Switch 2 ON*

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default

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Setup 4-16

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
 230VAC, 50Hz, 1p, 16A, (Circuit Breaker rating = 20A max.)

System Outputs - 16A Service:

Pump 1 230VAC 1-Speed 8A max 15-minute timer
 Blower 230VAC 1-Speed 4A max 15-minute timer
 Circ Pump 230VAC 1-Speed 2A max Programmable Filtration Cycles + Polling
 This is the heater pump
 Must deliver a minimum of 20 GPM through heater

Ozone 230VAC .5A max Uses the same relay as the Circ Pump
 Spa Light 10VAC On/Off .25A max 4-Hour timer.

Light output is rated for LED lighting only - NOT for use with incandescent lights.

Heater 4kW @ 240VAC

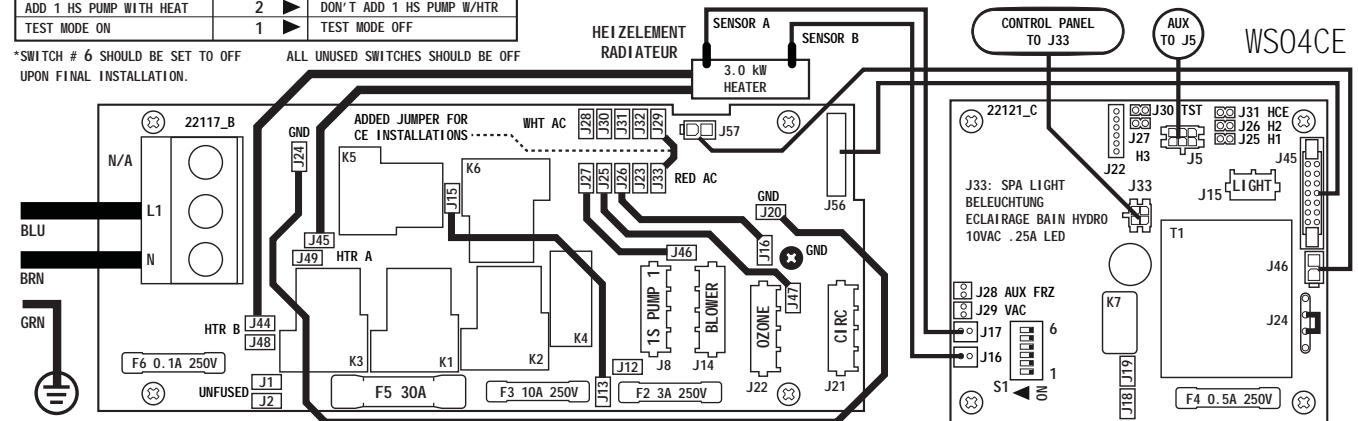
Wiring Diagram and Settings

ON POSITION	S1 SWITCH #	OFF POSITION
MEMORY RESET*	6	STORE SETTINGS*
SPECIAL AMPERAGE RULE ON	5	SPECIAL AMPERAGE RULE OFF
ADD 4 HS PUMPS WITH HEAT	4	DON'T ADD 4 HS PUMPS W/HTR
ADD 2 HS PUMPS WITH HEAT	3	DON'T ADD 2 HS PUMPS W/HTR
ADD 1 HS PUMP WITH HEAT	2	DON'T ADD 1 HS PUMP W/HTR
TEST MODE ON	1	TEST MODE OFF

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



Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J8	2-Speed Pump 1	<i>1-Speed Pump 1</i>
J14, TP600 Button 2, LED 2, AX10A2	Pump 2	<i>Blower</i>
J21	Not Used (non-circ)	<i>Circ Pump Enabled</i>

Refer to Page 3 to choose a suitable Plumbing Kit.

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Setup 4-32

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
230VAC, 50Hz, 1p, 32A, (Circuit Breaker rating = 40A max.)

System Outputs - 32A Service:

Pump 1	230VAC	1-Speed	12A max	15-minute timer
Blower	230VAC	1-Speed	4A max	15-minute timer
Circ Pump	230VAC	1-Speed	2A max	Programmable Filtration Cycles + Polling
This is the heater pump Must deliver a minimum of 20 GPM through heater				
Ozone	230VAC		.5A max	Uses the same relay as the Circ Pump
Spa Light	10VAC	On/Off	.25A max	4-Hour timer.
Light output is rated for LED lighting only - NOT for use with incandescent lights.				
Heater	4kW @ 240VAC			
Misc.	J23 & J32	230VAC	4A max	Hot output (Stereo). Fused equipment or in-line fuse required.

Wiring Diagram and Settings

ON POSITION	S1 SWITCH #	OFF POSITION
MEMORY RESET*	6	STORE SETTINGS*
SPECIAL AMPERAGE RULE ON	5	SPECIAL AMPERAGE RULE OFF
ADD 4 HS PUMPS WITH HEAT	4	DON'T ADD 4 HS PUMPS W/HTR
ADD 2 HS PUMPS WITH HEAT	3	DON'T ADD 2 HS PUMPS W/HTR
ADD 1 HS PUMP WITH HEAT	2	DON'T ADD 1 HS PUMP W/HTR
TEST MODE ON	1	TEST MODE OFF

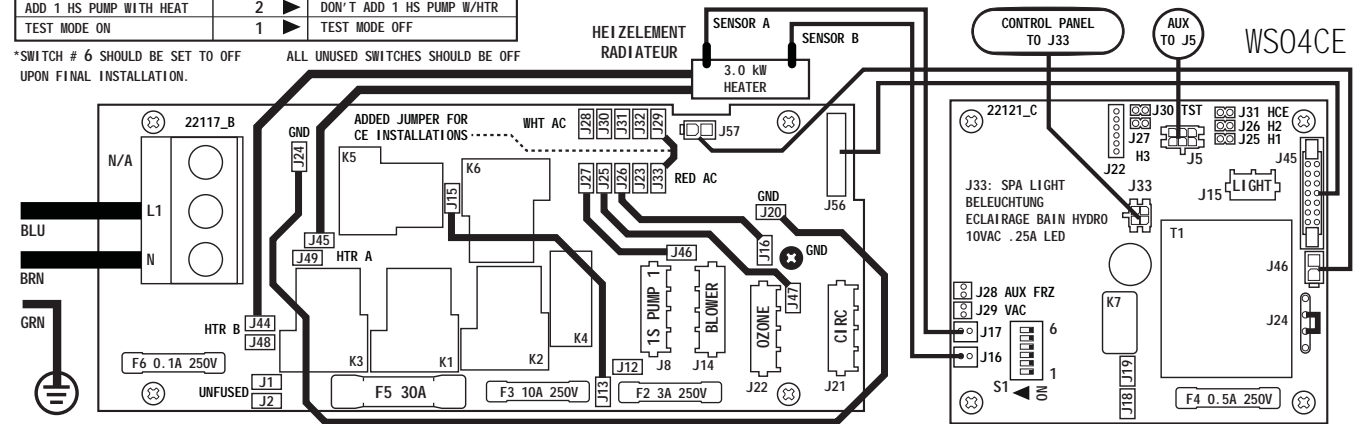
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TORQUE RANGE FOR MAIN TERMINAL BLOCK (TB1):
27-30 IN. LBS. (31.1-34.5 kg cm)



Software Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J8	2-Speed Pump 1	1-Speed Pump 1
J14, TP600 Button 2, LED 2, AX10A2	Pump 2	Blower
J21	Not Used (non-circ)	Circ Pump Enabled
J23 & J12	Hot Output	Useable

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default



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Setup 5-16

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
 230VAC, 50Hz, 1p, 16A, (Circuit Breaker rating = 20A max.)

System Outputs - 16A Service:

- Pump 1 230VAC 2-Speed 12A max 120-minute timer for Low Speed, 15 Minutes for High Speed
 This is the heater pump
 Must deliver a minimum of 20 GPM through heater
 Low Speed may not exceed 2A max
- Ozone 230VAC .5A max Uses the same relay as Pump 1 Low
- Spa Light 10VAC On/Off .25A max 4-Hour timer.
Light output is rated for LED lighting only - NOT for use with incandescent lights.
- Heater 3kW @ 240VAC

Wiring Diagram and Settings

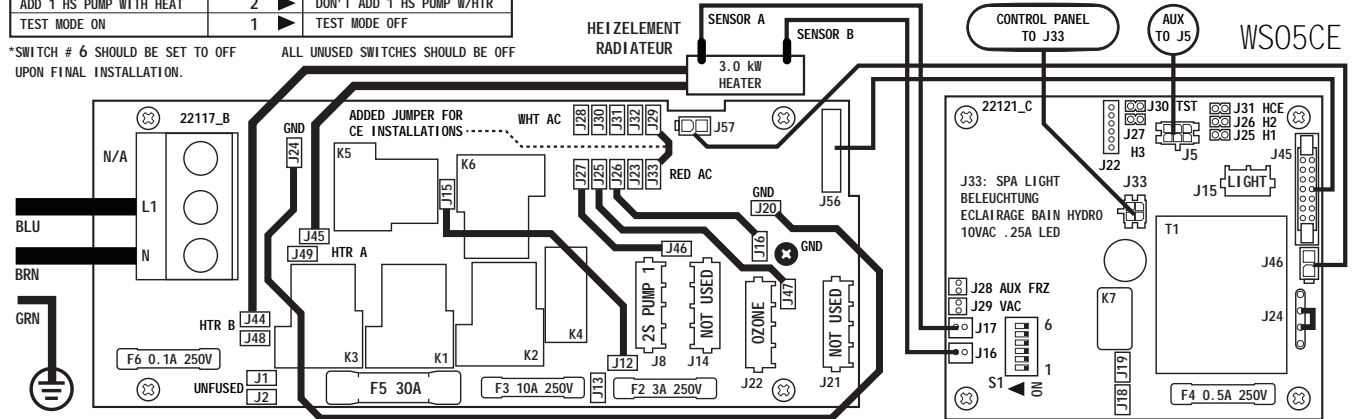
ON POSITION	S1 SWITCH #	OFF POSITION
MEMORY RESET*	6	STORE SETTINGS*
SPECIAL AMPERAGE RULE ON	5	SPECIAL AMPERAGE RULE OFF
ADD 4 HS PUMPS WITH HEAT	4	DON'T ADD 4 HS PUMPS W/HTR
ADD 2 HS PUMPS WITH HEAT	3	DON'T ADD 2 HS PUMPS W/HTR
ADD 1 HS PUMP WITH HEAT	2	DON'T ADD 1 HS PUMP W/HTR
TEST MODE ON	1	TEST MODE OFF

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



Software Configuration Changes based on Default Feature

J14, TP600 Button 2, LED 2, AX10A2 Pump 2 *Not Used*

Refer to Page 3 to choose a suitable Plumbing Kit.

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Setup 5-32

Power Requirements:

Single Service [3 wires (line, neutral, ground)]
230VAC, 50Hz, 1p, 32A, (Circuit Breaker rating = 40A max.)

System Outputs - 32A Service:

Pump 1	230VAC	2-Speed	12A max	120-minute timer for Low Speed, 15 Minutes for High Speed
				This is the heater pump Must deliver a minimum of 20 GPM through heater
Ozone	230VAC		.5A max	Uses the same relay as Pump 1 Low
Spa Light	10VAC	On/Off	.25A max	4-Hour timer.
				Light output is rated for LED lighting only - NOT for use with incandescent lights.
Heater	3kW @ 240VAC			
Misc.	J23 & J32	230VAC	4A max	Hot output (Stereo). Fused equipment or in-line fuse required.

Wiring Diagram and Settings

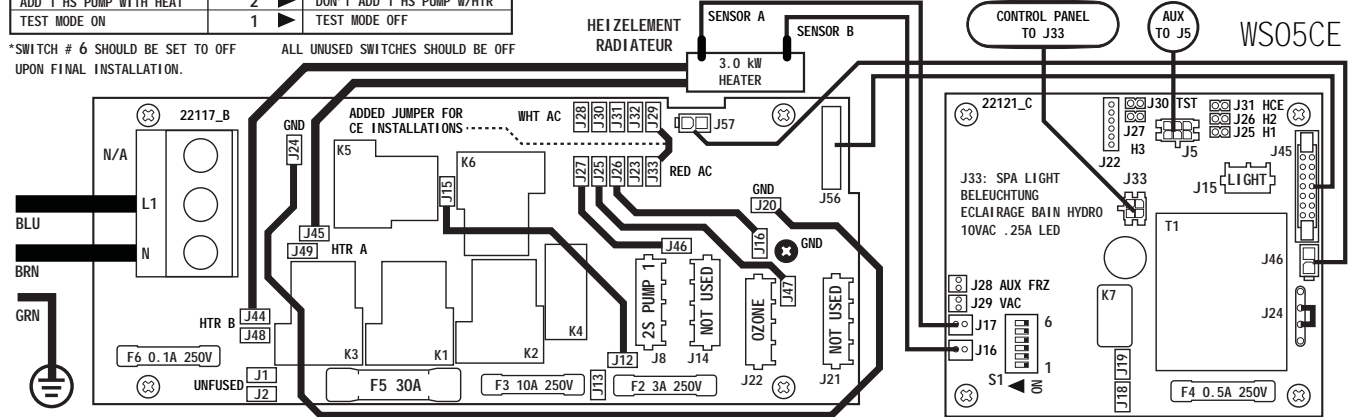
ON POSITION	S1 SWITCH #	OFF POSITION
MEMORY RESET*	6	STORE SETTINGS*
SPECIAL AMPERAGE RULE ON	5	SPECIAL AMPERAGE RULE OFF
ADD 4 HS PUMPS WITH HEAT	4	DON'T ADD 4 HS PUMPS W/HTR
ADD 2 HS PUMPS WITH HEAT	3	DON'T ADD 2 HS PUMPS W/HTR
ADD 1 HS PUMP WITH HEAT	2	DON'T ADD 1 HS PUMP W/HTR
TEST MODE ON	1	TEST MODE OFF

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



Software Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J14, TP600 Button 2, LED 2, AX10A2	Pump 2	<i>Not Used</i>
DIP Switch Option		
Add 1 High Speed Pump with Heat	DIP Switch 2 OFF	<i>DIP Switch 2 ON</i>
J23 & J13	Hot Output	<i>Useable</i>

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default

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. All material copyright of Balboa Water group.



Setup 6-16

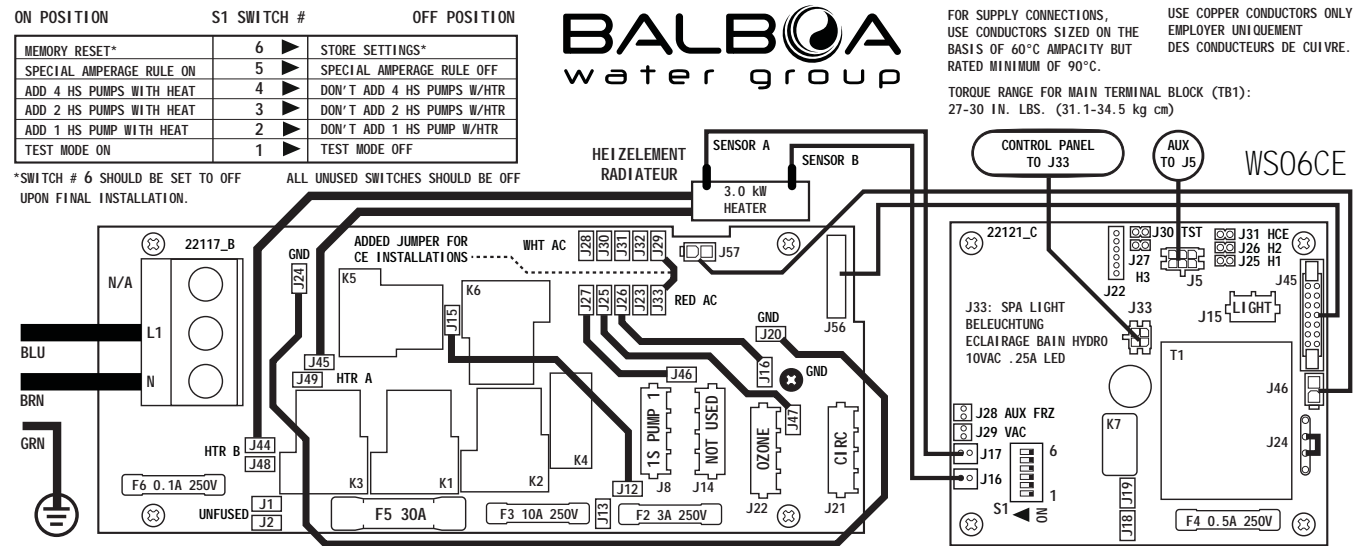
Power Requirements:

Single Service [3 wires (line, neutral, ground)]
230VAC, 50Hz, 1p, 16A, (Circuit Breaker rating = 20A max.)

System Outputs:

Pump 1	230VAC	1-Speed	12A max	15-minute timer
Circ Pump	230VAC	1-Speed	2A max	Programmable Filtration Cycles + Polling
		This is the heater pump Must deliver a minimum of 20 GPM through heater		
Ozone	230VAC		.5A max	Uses the same relay as the Circ Pump
Spa Light	10VAC	On/Off	.25A max	4-Hour timer.
		Light output is rated for LED lighting only - NOT for use with incandescent lights.		
Heater	3kW @ 240VAC			

Wiring Diagram and Settings



Software Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J8	2-Speed Pump 1	<i>1-Speed Pump 1</i>
J14, TP600 Button 2, LED 2, AX10A2	Pump 2	<i>Not Used</i>
J21	Not Used (non-circ)	<i>Circ Pump Enabled</i>

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default

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Setup 6-32

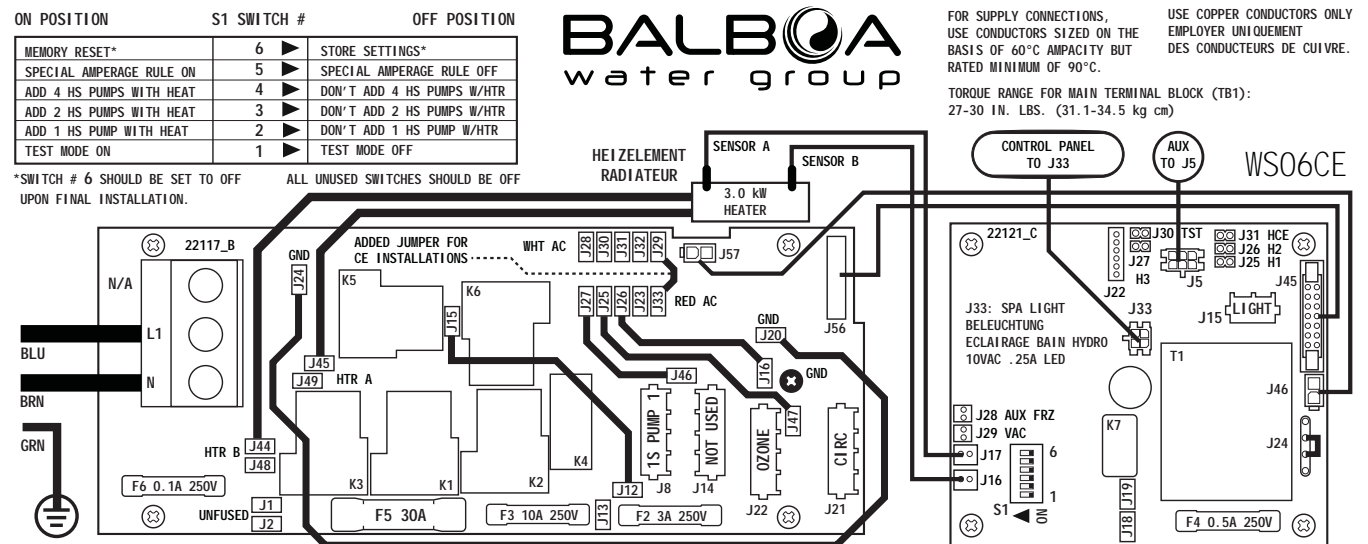
Power Requirements:

Single Service [3 wires (line, neutral, ground)]
 230VAC, 50Hz, 1p, 32A, (Circuit Breaker rating = 40A max.)

System Outputs:

Pump 1	230VAC	1-Speed	12A max	15-minute timer
Circ Pump	230VAC	1-Speed	2A max	Programmable Filtration Cycles + Polling
		This is the heater pump Must deliver a minimum of 20 GPM through heater		
Ozone	230VAC		.5A max	Uses the same relay as the Circ Pump
Spa Light	10VAC	On/Off	.25A max	4-Hour timer.
		Light output is rated for LED lighting only - NOT for use with incandescent lights.		
Heater	3kW @ 240VAC			
Misc.	J23 & J32	230VAC	3A max	Hot output (Stereo). Fused equipment or in-line fuse required.

Wiring Diagram and Settings



Software Configuration Changes based on Default Feature

Feature	Orig. Setup 1	Changes to
J8	2-Speed Pump 1	<i>1-Speed Pump 1</i>
J14, TP600 Button 2, LED 2, AX10A2	Pump 2	<i>Not Used</i>
J21	Not Used (non-circ)	<i>Circ Pump Enabled</i>
J23 & J13	Hot Output	<i>Useable</i>

DIP Switch Option

Add 1 High Speed Pump with Heat DIP Switch 2 OFF *DIP Switch 2 ON*

Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default



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. All material copyright of Balboa Water Group.

Setup Changes with DIP Switch 1 ON

Read and understand these instructions before beginning this process.

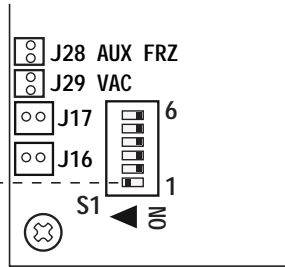
Know the Setup Number you want before you power up the spa and wait to power up the spa until you're ready to change the Setup Number.

The system must be in Test Mode, so move Switch 1 to the ON position. The Test Menu will then be available.

Power up the spa, and press any button once to Link the panel. (Note: Switch 1 can be moved to the ON position immediately after power-up, if preferred - Danger! High Voltage will be present!)

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.)

→ 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



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

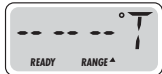
Move DIP Switch 1 (on S1 on the Logic circuit board) to ON.

The system will enter Test Mode.

Moving DIP Switch 1 to OFF will exit Test Mode.



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.



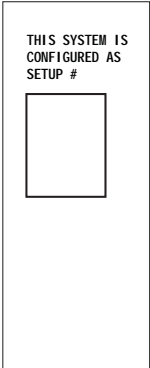
Setup Changes – Continued

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.

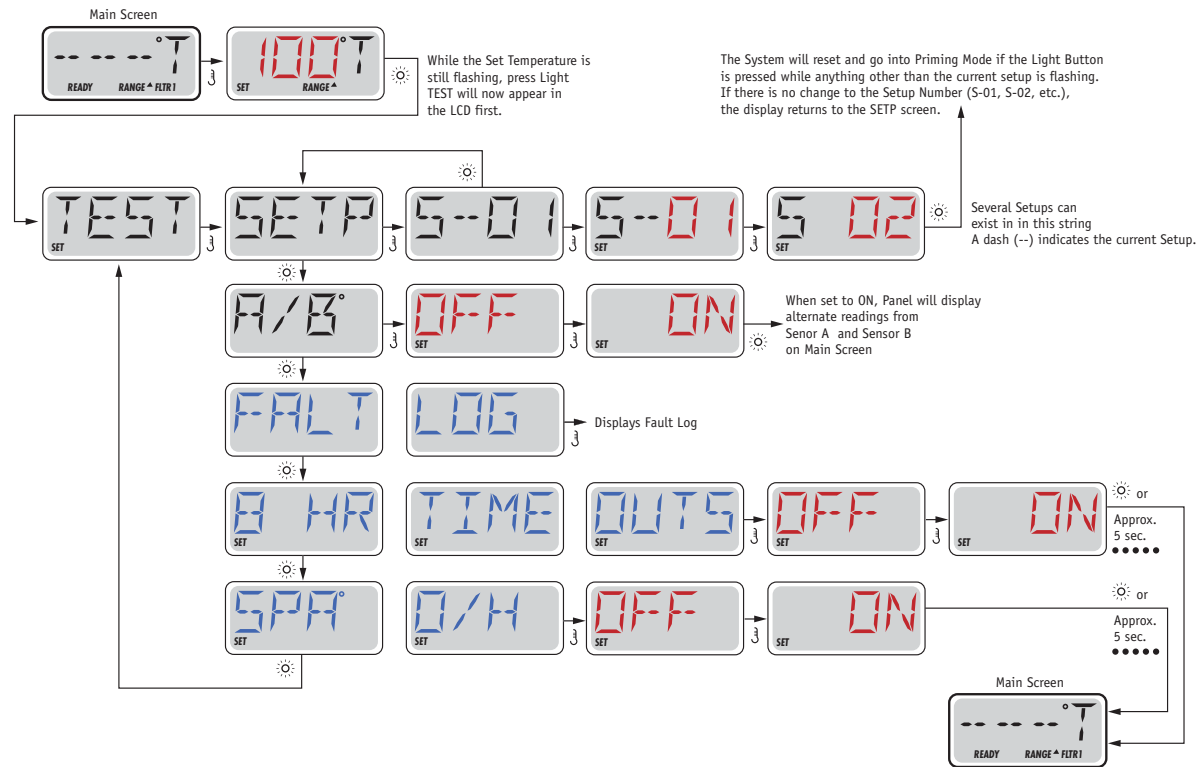
Using a permanent marker, write the Setup number on the Setup label mounted inside the system lid (right). This is very important to any service person in the future who may need to replace a circuit board or system and needs to change the Setup on a replacement part while in the field.



NOTE: Changing the Setup may require wiring changes as well - refer to the wiring diagram or wiring diagram addendum.

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



*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.)



IT Electrical System (No Neutral)

The wiring diagram in the system show connections for TN and TT electrical services (Line, Neutral, Ground).

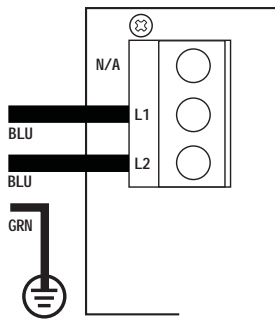
IT Power Requirements:

Single Service [3 wires (line, line, ground)]
230VAC, 50Hz, 1p, 16A/32A, (Circuit Breaker rating = 20A/40A max.)

Protective Earth Wire (Green/Yellow) must be connected to system ground terminal as marked.

All equipment (pumps, blower, and heater) runs on service line L1 with L2 acting as the return.

Set the DIP switches according to the wiring diagram so that total system current draw never exceeds the rated service input when using a particular setup.

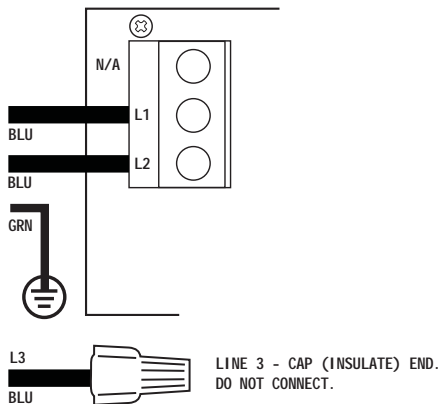


Three Service [4 wires (line, line, line, ground)]
230VAC, 50Hz, 1p, 16A/32A, (Circuit Breaker rating = 20A/40A max.)

Protective Earth Wire (Green/Yellow) must be connected to system ground terminal as marked.

All equipment (pumps, blower, and heater) runs on service line L1 with L2 acting as the return.

Set the DIP switches according to the wiring diagram so that total system current draw never exceeds the rated service input when using a particular setup.



Refer to Page 3 to choose a suitable Plumbing Kit.

Blue indicates changes from the original Setup 1 default

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. All material copyright of Balboa Water Group.

Configuration Options

General Features

Feature	Default
Pump 1 in Filter Cycle (Circ Only)	No
Pump 1 Low Timer	30 Minutes
General Pump Timer	15 Minutes
Blower Timer	15 Minutes
Mister Timer (N/A)	15 Minutes
Light Timer	240 Minutes
Circ	Like P1 Low

Cleanup Cycle *30 Minutes*

Cleanup as Preference setting *Yes*

Ozone Always

Ozone Suppression OFF

Pump Purge 60 Seconds

Blower Purge 30 Seconds

Mister Purge (N/A) 5 Seconds



Blue Indicates New Custom Configuration Default (Setup 1)

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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

Temp Lock Type

Temp + Settings

Time Features

Feature

Default

Time Format*

24 Hour

Filter 1 Start Hour*

8:00 PM (20:00)

Filter 1 Duration*

2 Hours

Filter Cycle 2 Default*

OFF

Filter 2 Start Hour*

8:00 AM (08:00)

Filter 2 Duration*

15 Minutes

Light Cycle

Disabled

Light Cycle Default*

OFF

Light Cycle Start Hour*

9:00 PM (21:00)

Light Cycle Duration*

15 Minutes

*May be changed by end-user (if Enabled)



Blue Indicates New Custom Configuration Default (Setup 1)

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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

Special Features

Feature	Default
Special Amperage Rule A (DIP SW 5 OFF)	No Limitation
Special Amperage Rule B (DIP SW 5 ON)	1 High-Speed Pump**
Drain Mode	Disabled
Demo Mode	Disabled
Automatic GFCI Test	Disabled
Ozone Slaved to Heater Pump	<i>Yes</i>

* *Editable by end-user*

** Special Amperage Rule B is (DIP Switch 5 ON) is only used with Setup 1-16 (Page 4).
This setting will not allow both Pump 1 High and Pump 2 to run at the same time.



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Configuration Options

Main Control Panel Features

Feature	Default
Button 1	Jets 1
Button 2	Jets 2
Button 3	Flip
Button 4	Up
Button 5	Light 1
Button 6	Down
LED 1	Jets 1
LED 2	Jets 2
LED 3	Light 1
LED 4	Heat ON

TP600CE

50014 ►
with Overlay PN 12101
TP600 (non-CE) should not be used



Download the User Interface and Programming Guide here:
http://service.balboa-instruments.com/zz40940_download.zip
Blue Indicates New Custom Configuration Default (Setup 1)



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Configuration Options

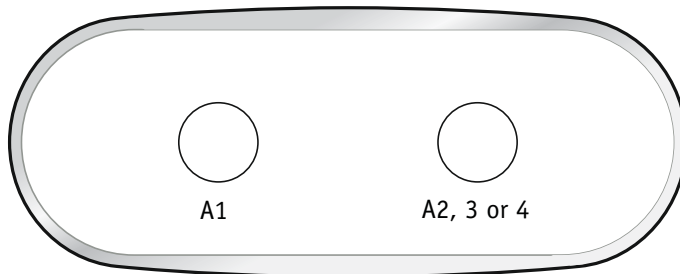
Auxilliary Panel Features

Feature	Default
Aux Button A1	Jets 1
Aux Button A2	Jets 2
Aux Button A3	<i>Unused</i>
Aux Button A4	Light

AX10 A1	No O/L	52803	
AX10 A2	AUX O/L	55919	▶
AX10 A3	No O/L	52805	
AX10 A4	No O/L	52806	



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



AX40	No O/L	52799
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