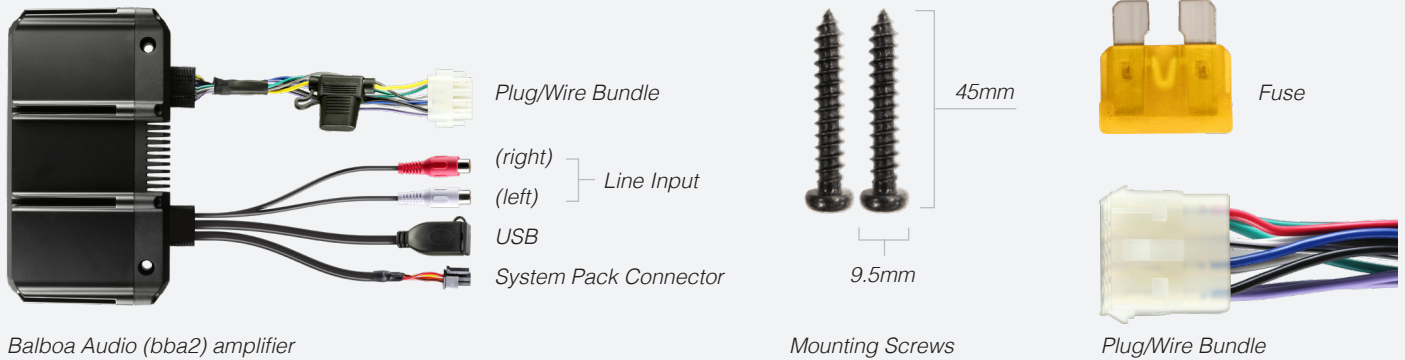# Installation Manual

BALBOA
water group

⚠ WARNING

There are no user serviceable parts inside the system pack. All connections must be made by a qualified electrician in accordance with the country or local electrical codes in effect at the time of installation.

System Pack

42296-F, bba2 User Guide

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Page 2

Parts List

Equipment included in the box

Plug/Wire Bundle

(right)
(left) — Line Input

USB

System Pack Connector

Balboa Audio (bba2) amplifier

45mm

9.5mm

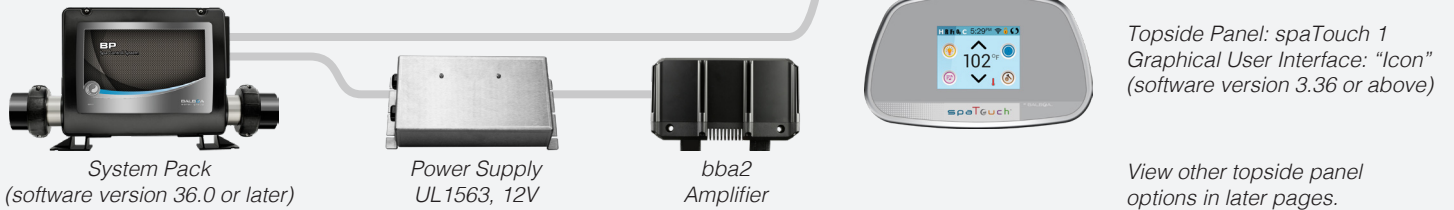*Mounting Screws*

Fuse

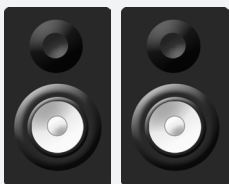*Plug/Wire Bundle*

Spa Equipment

The system pack and all electronic components connected to the system pack are referred to as "**system**" in this manual.

The power supply connects to the system pack at the circuit board connector labeled "A / V." Refer to the system pack wire diagram for circuit board connector positions. The wire diagram is inside the system pack.

System Pack
(software version 36.0 or later)

Power Supply
UL1563, 12V

bba2
Amplifier

Topside Panel Options

Topside Panel: spaTouch 2
Graphical User Interface: "Icon"
(software version 2.0 or above)

Topside Panel: spaTouch 1
Graphical User Interface: "Icon"
(software version 3.36 or above)

View other topside panel options in later pages.

Audio Equipment

Speakers

Sub woofer
(See page 5 for limitations.)

Smart Device
(iOS, Android, etc)

bba2 works with iOS and Android phones and tablets.

bba™2 New/Redesigned Features

The following features are compatible with the spaTouch1 topside panel, GUI: "Icon," software version 3.36 or above, as well as the spaTouch 2.

Song and metadata display:
· Artist
· Song
· Song length and elapsed time
Audio EQ (equalizer) modes:
· Jazz, Rock, Hall, etc.
USB input
Enhanced bass

Redesigned Module

New Bluetooth Radio
· BT3.0-HS/BT4.0 EDR
· Range: up to 100 feet in open air.
  Ranges vary as they are dependant on installations.
New plastic enclosure
· IPx5 waterproof

Tech Specs

Speaker impedance
· 2-8 ohms
Output power
· (2 ohm load) 4x55W (80W max)
· (4 ohm load) 4x30W (50W max)
Operating voltage
· 10.5V-15V DC
Max current draw at full power out
· 9-15 amps
Dimensions
· 8"wide X 3" high X 4.3" deep
· (20.32 cm X 7.62 cm X 10.92 cm)
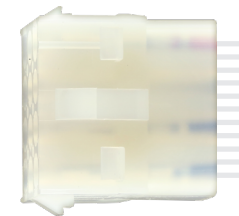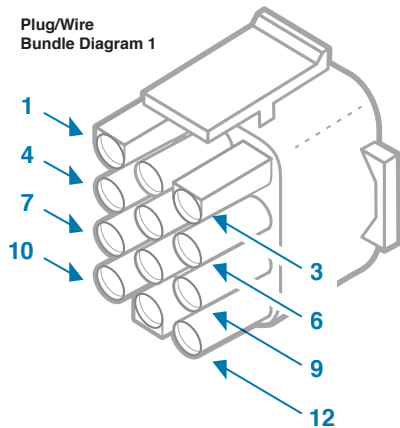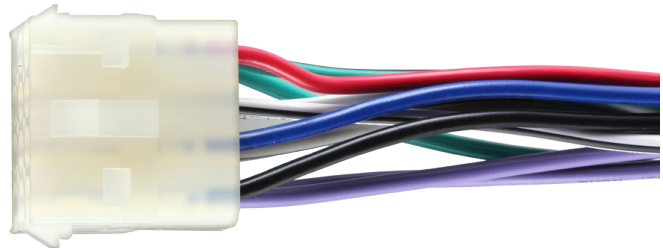Weight
· 2.0 lbs. (0.9 Kg)
4 channel Amp
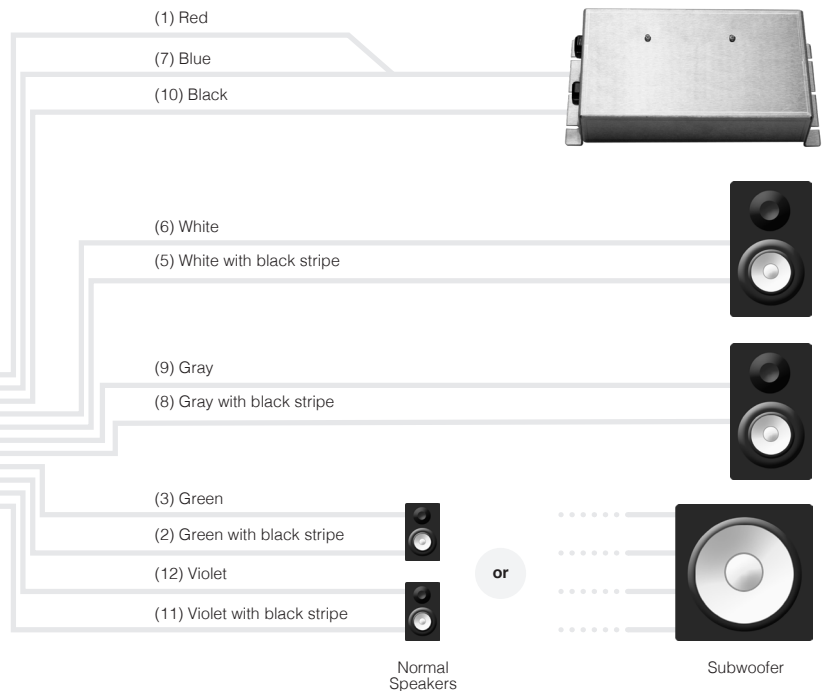· Sub woofer from the rear 2 channels

bba™2 Amp Connections

Plug/Wire Bundle Chart

Wire Color	Wire #	Wire Function
Red	1	B + (+ 12VDC)
Green w/stripe	2	Rear Left Speaker -
Green	3	Rear Left Speaker +
no wire (blank)	4	no wire (blank)
White w/stripe	5	Front Left Speaker -
White	6	Front Left Speaker +
Blue	7	B + (+ 12VDC)
Gray w/stripe	8	Front Right Speaker -
Gray	9	Front Right Speaker +
Black	10	Ground (neg)
Violet w/stripe	11	Rear Right Speaker -
Violet	12	Rear Right Speaker +

Wire the plug/wire bundle to the 12VDC power source, left and right speakers, and sub woofer. The numbers in "Plug/Wire Bundle Chart" correspond with the numbers in "Plug/Wire Bundle Diagram 1" and "Plug/Wire Bundle Diagram 2."

Plug/Wire Bundle
Female Side View (photo)

Plug/Wire Bundle Diagram 1

Plug/Wire Bundle Diagram 2
Female Side View (photo)

(1) Red
(7) Blue
(10) Black

(6) White
(5) White with black stripe

(9) Gray
(8) Gray with black stripe

(3) Green
(2) Green with black stripe
(12) Violet
(11) Violet with black stripe

Normal Speakers

or

Subwoofer

This manual only specifies audio connections to a subwoofer. If the subwoofer needs other connections, such as power, refer to the subwoofer documentation for those connections.

Note: only a system with a spaTouch 2 or spaTouch 1 (with an "Icon" graphic user interface) connected can be configured to use a subwoofer.

If a sub woofer is used, the low pass filter setting needs to be enabled on the audio settings screen (see page 12) .

bba™2 Mounting Instructions

1 - Choose a well ventilated mounting surface. The bba2 amplifier generates significant heat when operating at high power levels.

2 - To insure a good Bluetooth connection, the mounting surface should be elevated from the ground.

3 - It is preferable to mount bba2 such that the heat sink fins are vertical or facing upward.

4 - Drill pilot holes in the mounting surface that correspond with the 2 mounting holes in the bba2 amplifier. Be sure not to drill into any critical areas of the spa.
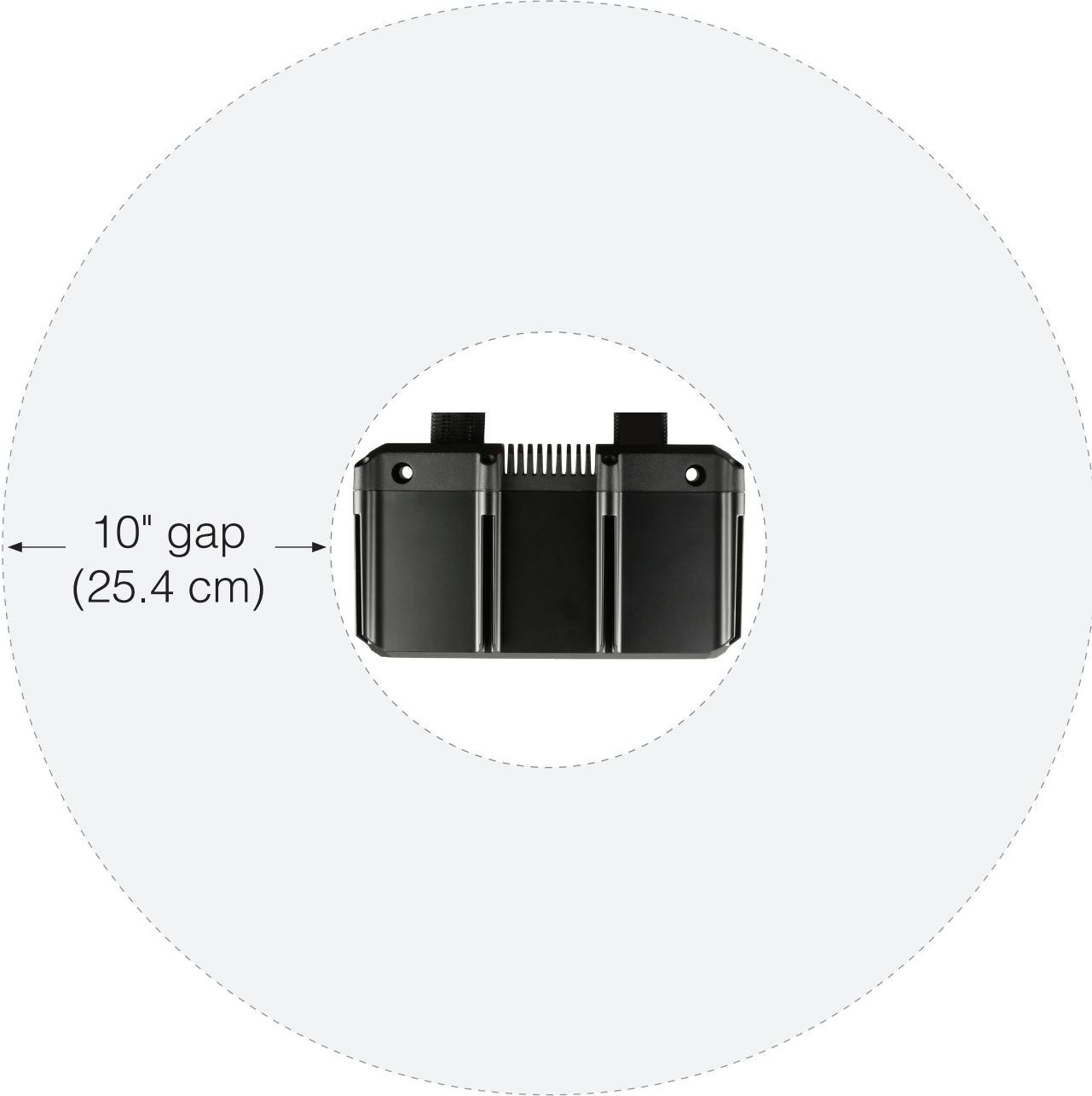
5 - Fasten the bba2 amplifier to the surface securely with the mounting screws.

Continue to next page.

Mounting Screws

45mm

9.5mm

Mounting Holes

Heat Sink Fins

*bba2 Amplifier
(top view)*

Mounting Screws

*bba2 Amplifier
(front view)*
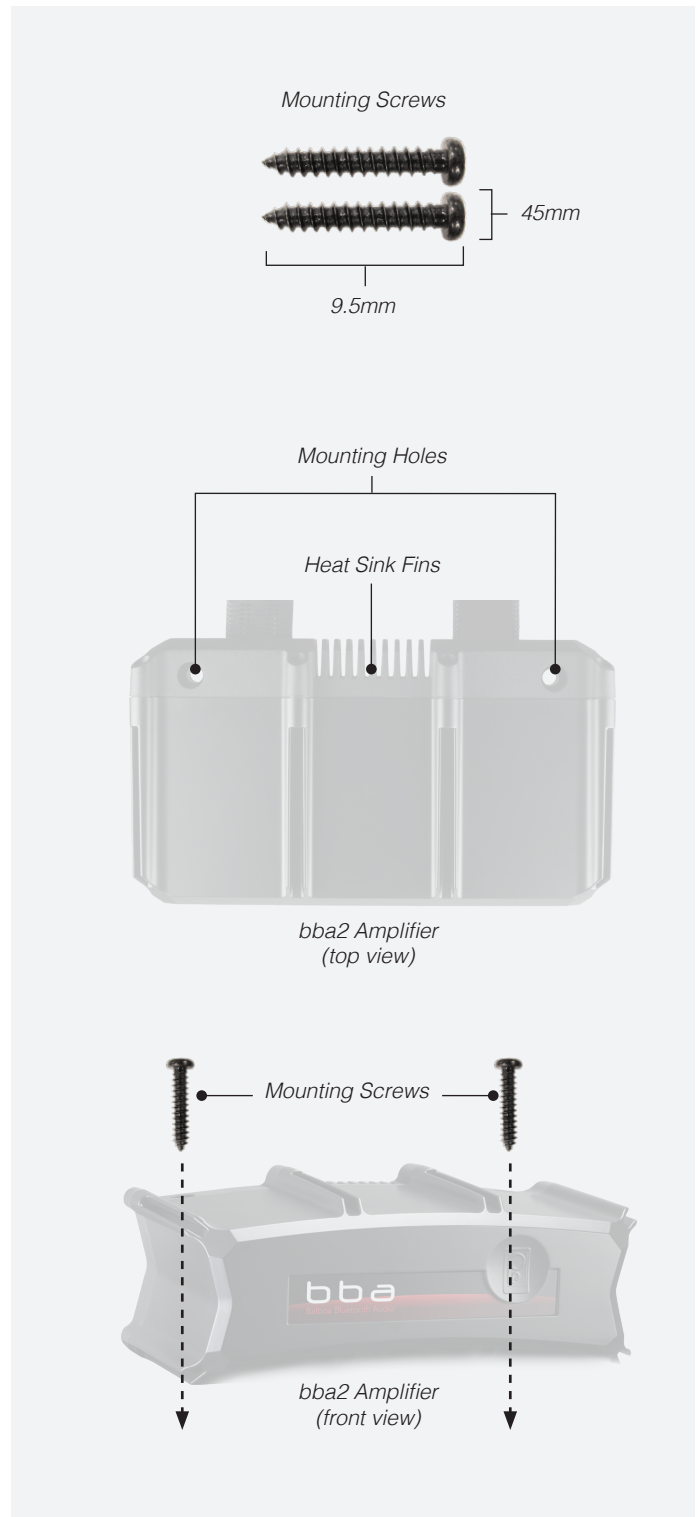
bba™2 Mounting Instructions

6 - Leave a 10 inch gap between the bba2 amplifier and other spa components to help heat management.

10" gap
(25.4 cm)

bba™2 Amp Connections

Power Wire Specifications

Red wire and blue wire - connect these two wires to a +12V power supply.
Black wire - Connect it to the negative or other good power ground.

Notes

Use the included plug/wire bundle to connect to the power source and speakers.
The red, blue and black power wires should be 16AWG or larger depending on the length to the power supply. Never operate the unit without the proper power and ground wire. Never ground the speaker leads and never allow the speaker leads to come in contact with each other. The speaker wire should be at least 20 gauge or larger. Be sure to observe the correct polarity on the speaker connections.

Use quality crimp connectors to connect wires together. Seal the connection well with electrical tape.

Never operate the unit without proper fusing. The fuse holder must be located within 2 feet of the power supply. This fuse is to protect the vessel, not the electronics. In case of a short, the fuse will blow instead of the wire burning up. Using other than the recommended fuse rating at the power supply and at the unit may cause damage to the unit and will void your warranty.

Whenever possible, use cable ties, mounting clamps and similar wiring aids. Adding stress relief loop to wiring is also advisable to prevent straining or breakage.

If after reading the directions you feel uncomfortable about installing the unit, or not equipped or competent to do so, you should have this installed by a professional installer.

Connect the white and grey loudspeaker wires to 1 or 2 pairs of loudspeakers. Pay close attention to polarity (black stripe = negative)
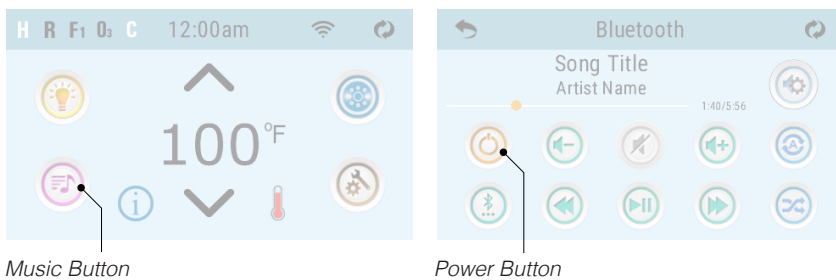
Connect the green and purple loudspeaker wires to 1 or 2 pairs of loudspeakers or to a sub woofer.

Bluetooth Connection

(Topside panels with "Icon" GUI)

Topside Panel Options

1 - Power up the system pack with bba2 already connected to the system pack.

Topside Panel: spaTouch 2
Graphical User Interface: "Icon"
(software version 2.0 or above)

Topside Panel: spaTouch 1
Graphical User Interface: "Icon"
(software version 3.36 or above)

2 - On the topside panel press the music button. Next, press the power button.

Music Button

Power Button

3 - Turn on Bluetooth function of your smart device or music device.

4 - On your smart device or music device, click search for Bluetooth device. Make sure you are close enough to the spa tub.

5 - Select "PPME70BT" from the pairing list.

6 - Click "Connect." Once connected, you can now play your favorite music from your smart device or music device.
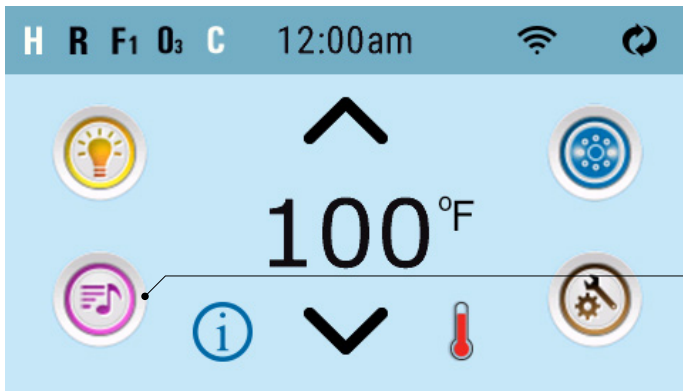
bba2 operates up to 100 feet in open air. Ranges vary as they are dependant on installations.
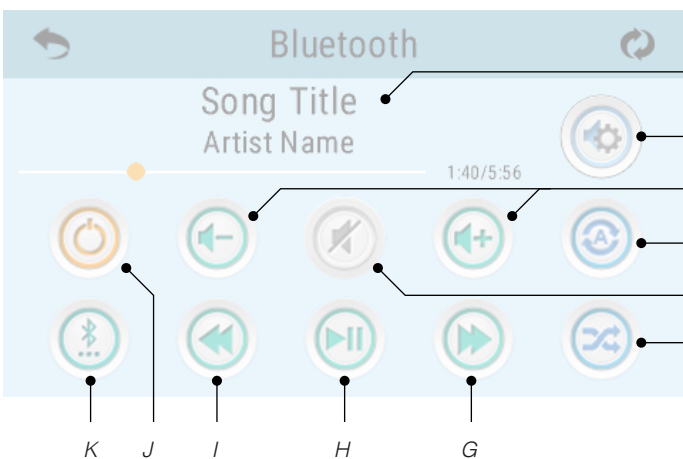
Topside Panel Interface

(Topside panels with "Icon" GUI)

Home Screen

These are spaTouch 2 screens. spaTouch 1 ("Icon" GUI) has the same icons, but some icons are in different positions.

Press this button

Bluetooth Screen

Some icons such as "Repeat" may not appear if music isn't playing.

A - Song, Artist, Song Length, Elapsed Time
B - Settings
C - Volume + / -
D - Repeat
    · Repeat one song
    · Repeat all songs
E - Mute On/Off
F - Shuffle
G - Track forward
H - Play/Pause
I - Track back
J - Power On/Off
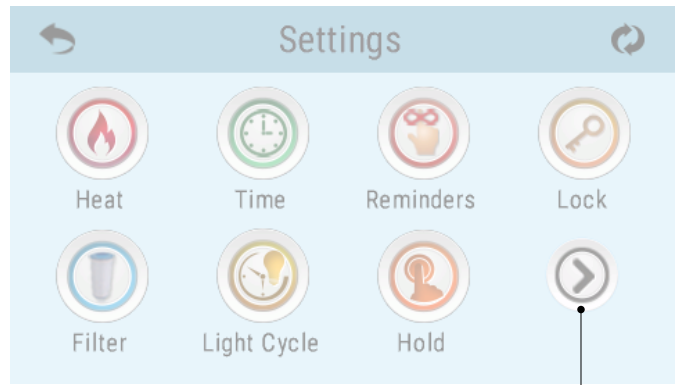K - Input Modes: Bluetooth, USB, Line in

Determine Panel Software Version

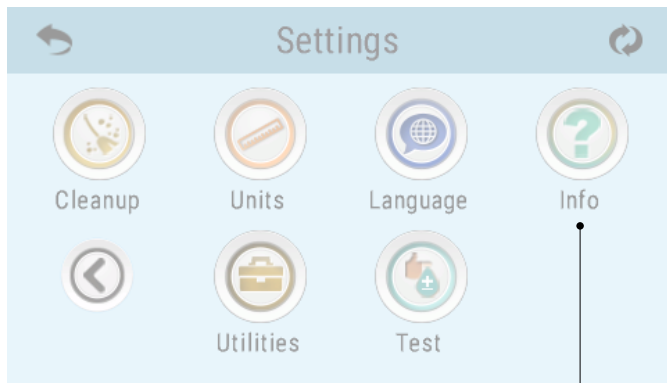(Topside panels with "Icon" GUI)

Home Screen
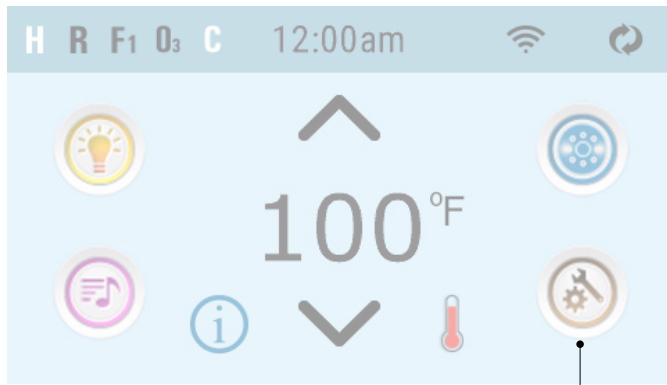
Press "Settings" button.

Press "Navigation" button.

*"Settings" buttons may vary from system to system.*

Press "Info" button.

Panel Version	ST2 BWG 2.00
System Model	BP2000G1
Software ID (SSID)	M100_220 V36.0
Configuration Signature	05F7A36B
Current Setup	1
DIP Switch Settings	0000000000
Heater Wattage	3-6 kW
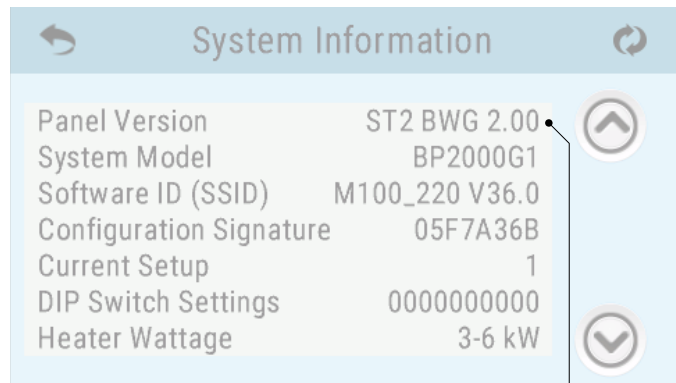
Topside panel software version.

Adjust Settings

(Available only on topside panels with "Icon" GUI)

Press this button for Settings

These buttons adjust Settings values
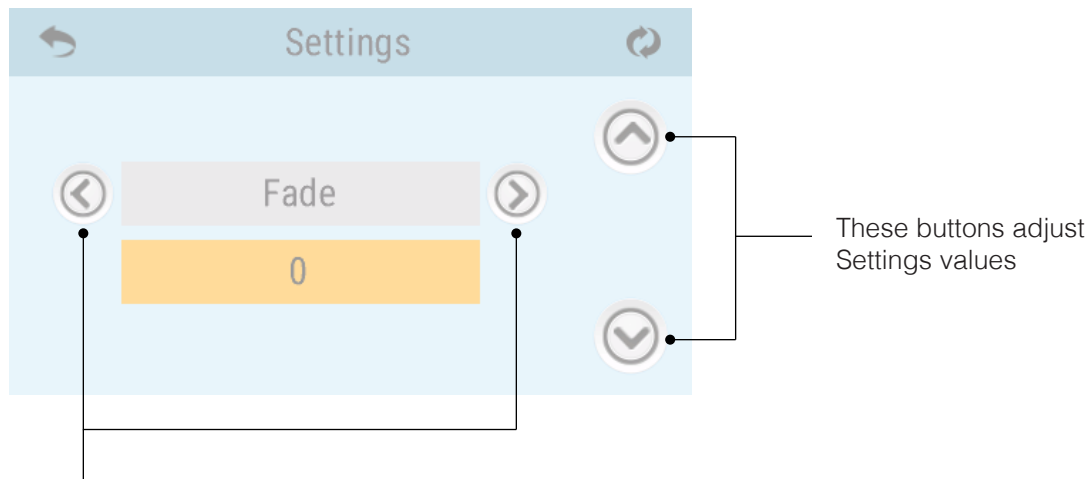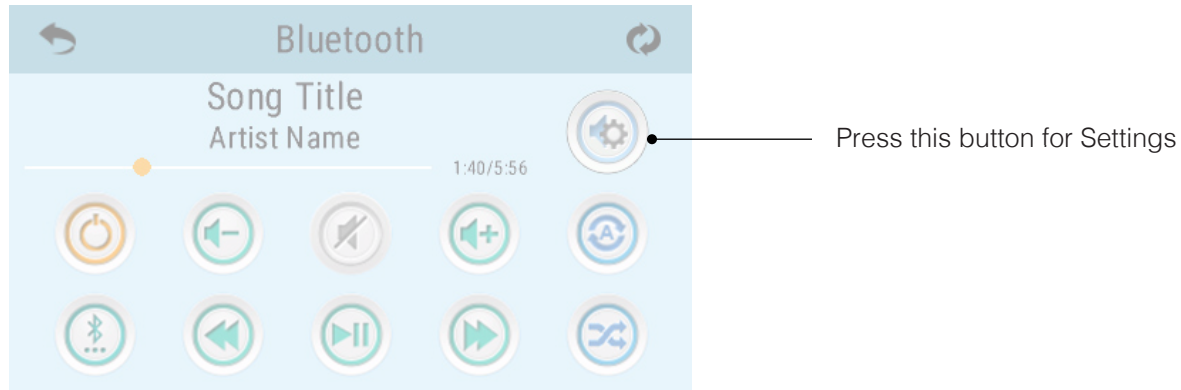
These buttons navigate to the following Settings:
· Balance
· Bass Gain
· EQ Preset
· Fade
· Filter

There are two types of audio filters: Low Pass, High Pass. These filters apply to the rear speaker output only. Select the Low Pass for subwoofers or High Pass for tweeters. Or, select OFF if filtering is not desired. Normal speakers do not require filtering.

Adjust Input Modes

(Topside panels with "Icon" GUI)

The following modes are available: Bluetooth, Line In, USB. All systems are equipped with Bluetooth mode. However, systems may or may not have Line In and USB, as these input modes are optional.

Press this button for Input Modes

Input Mode Icons

 Bluetooth (connected)

 Bluetooth (disconnected)

 Line In

 USB

Only spaTouch 2 and spaTouch 1 (software version 3.36 or above) have these icons. Earlier versions of spaTouch 1 have one icon.

Topside Panel Interface

(Topside panels with "Menu" GUI)

Topside Panel: spaTouch 1
(software version 2.8 or above)
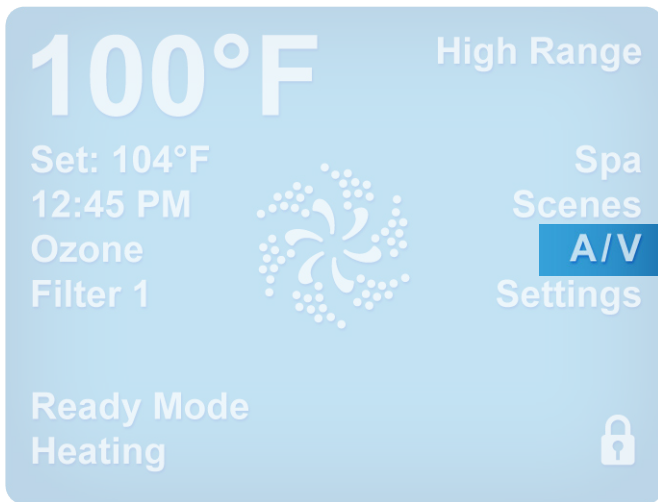

Topside Panel: TP800
(software version 4.11 or above)

Topside Panel: TP900

Home Screen

Select "A / V" to navigate to the Bluetooth screen.

"A / V" only appears on the topside panel display if bba2 has been properly connected to the system.
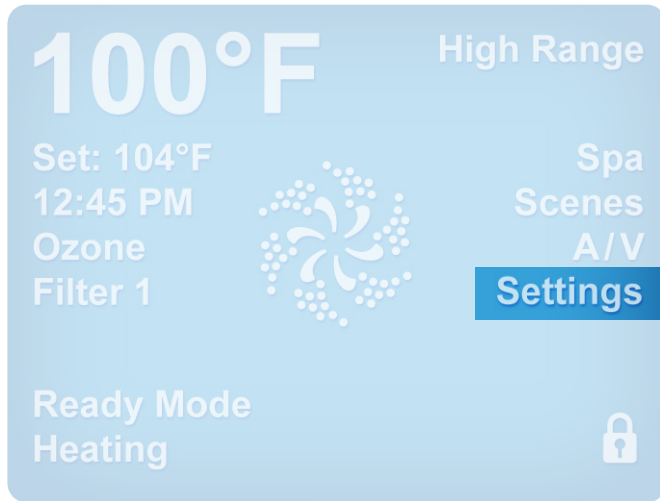
Bluetooth Screen

"Play / Pause" button

The "Source" button switches between Bluetooth, USB, and Line In input modes.

Determine Panel Software Version

(Topside panels with "Menu" GUI)

Home Screen

100°F	High Range
Set: 104°F	Spa
12:45 PM	Scenes
Ozone	A/V
Filter 1	**Settings**
Ready Mode	
Heating	🔒

Begin navigation by selecting "Settings."

Settings

Back

Filter Cycles	▶
Invert Panel	Normal
Lock	▶
Hold	▶
Utilities	▶
Preferences	▶
Information	**▶**

Select "Information."

System Information

Back

System Model
Current Setup
Configuration Signature
Heater Wattage
Heater Type
DIP switch Settings
Panel Version
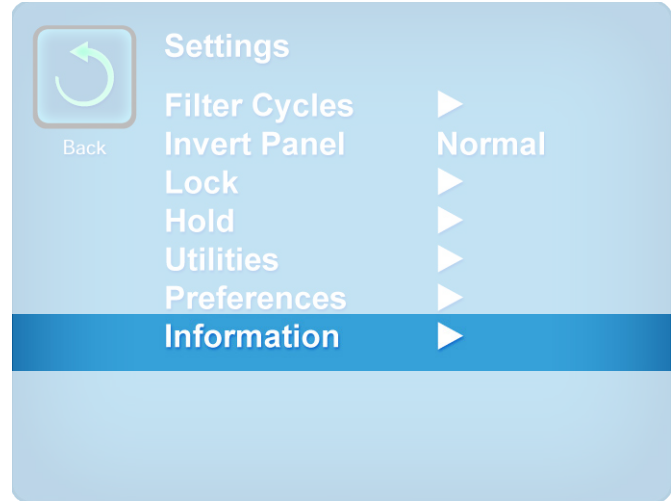
Panel Version
BWG **4.11**
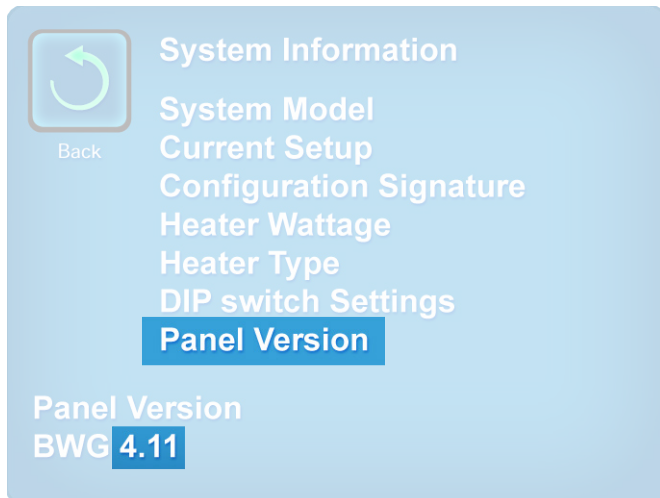
Select "Panel Version." The panel software version appears at the bottom of the screen. In this example it's 4.11.

Bluetooth Connection

(Topside panels with "Menu" GUI)

Topside Panel Options

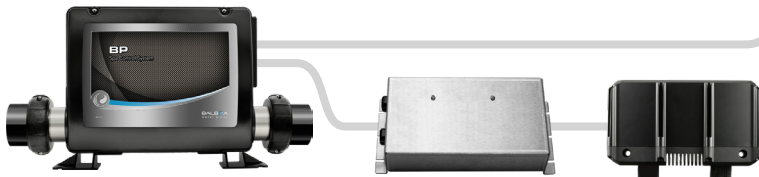1 - Power up the system pack with bba2 already connected to the system pack.

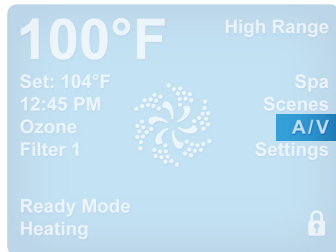*Topside Panel: spaTouch 1 (software version 2.8 or above)*

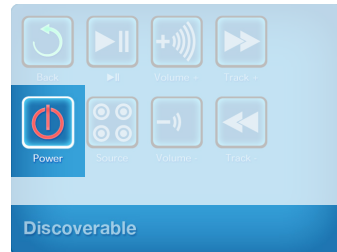*Topside Panel: TP800 (software version 4.11 or above)*

Topside Panel: TP900

2 - On the topside panel select the "A / V".

| 2A - Select "A / V" on the topside panel. | 2B - Select "Power." "Discoverable" may appear. | 2C - Next, "BT Not Connected" appears. | Refer to step 6 below. |
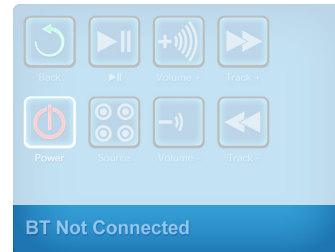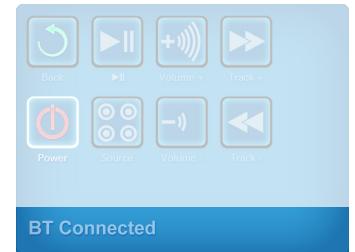
100°F High Range
Set: 104°F
12:45 PM
Ozone
Filter 1
Spa
Scenes
A / V
Settings
Ready Mode
Heating

Discoverable

BT Not Connected

BT Connected

3 - Turn on Bluetooth function of your smart device or music device.

4 - On your smart device or music device, click search for Bluetooth device. Make sure you are close enough to the spa tub.

5 - Select "PPME70BT" from the pairing list.

6 - Click "Connect." Once connected, you can now play your favorite music from your smart device or music device.
"BT Connected" appears on the topside panel display.

bba2 operates up to 100 feet in open air. Ranges vary as they are dependant on installations.

Using USB

Connect USB drive here (image 1). You can select tracks, control volume and play/pause (image 2 & 3). Volume control is also available (image 2 & 3). If the topside panel has "shuffle" and "repeat", they should work also.

USB display on panels with "Menu" GUI

With a newer TP800 (software version 4.11 or above) or with a newer "Menu" spaTouch 1 (software version 2.8 or above), the USB input is selectable and displays as "USB". With an older TP800 or an older "Menu" spaTouch 1 or a TP900, the USB input is selectable, but it displays a Bluetooth indication.

To work with BBA at all, a TP800 or TP900 must be version 3.13 or above, and a "Menu" spaTouch 1 must be version 1.7 or above.

Using Line In

You can connect any headphone output to the Line In connectors (image 1), but you will likely need an adapter cable because of the different connectors. Volume is the only controllable feature when using Line In.

Image 1
Balboa Audio (bba2) amplifier

(right)
(left) — Line Input
USB

Image 2
Topside panel display with "Icon" GUI

Track Up/Down   *Volume Up/Down*

Image 3
Topside panel display with "Menu" GUI

Play/Pause   *Volume Up/Down*   *Track Up/Down*
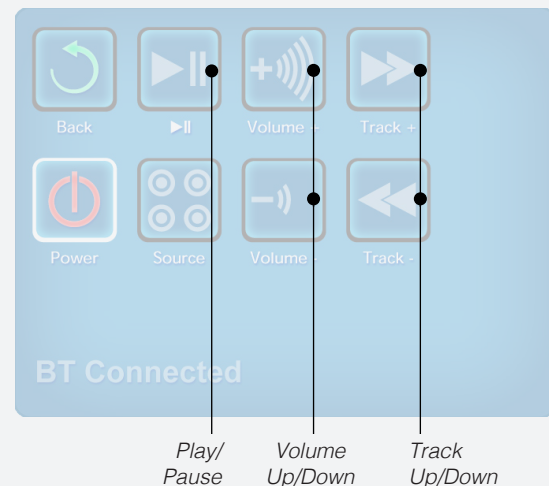
Topside Panel Interface

(Topside panels: TP600, TP400)

Spa Equipment

The system pack and all electronic components connected to the system pack are referred to as "**system**" in this manual.

The power supply connects to the system pack at the circuit board connector labeled "A / V." Refer to the system pack wire diagram for circuit board connector positions. The wire diagram is inside the system pack.

Topside Panel Options

Topside Panel: TP600
(software version 2.12 or above)

Topside Panel: TP400
(software version 2.12 or above)

System Pack
(software version 37.0 or later)

Power Supply
UL1563, 12V

bba2
Amplifier

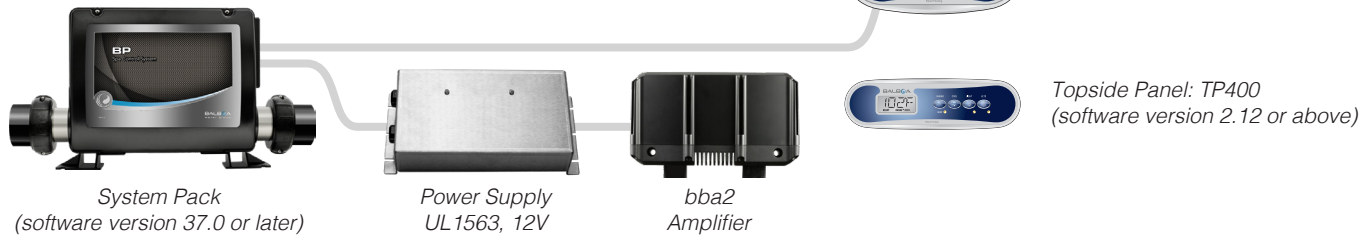# Determine Panel Software Version

(Topside panels: TP600, TP400)

1 - Start at the home screen. The water temperature is displayed by default.

2 - Press Temp (or Warm or Cool. This applies to all steps where Temp is pressed.) to begin navigation. The set temperature (not the water temperature) will begin flashing in the LCD display.

3 - Press Light until this screen appears. "UTIL" is an abbreviation for "Utilities."

4 - Press Temp once to make this screen appear. "INFO" is an abbreviation for "Information."

5 - Press Temp once again to make this screen appear. "SSID" stands for "System software identification."

6 - Press Light until this screen appears. "PANL" is an abbreviation for "Panel."

7 - Press Temp to view the panel software version.

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Bluetooth Connection

(Topside panels: TP600, TP400)

Topside Panel Options

*Topside Panel: TP600
(software version 2.12 or above)*

*Topside Panel: TP400
(software version 2.12 or above)*

*System Pack
(software version 37.0 or later)*

*Power Supply
UL1563, 12V*
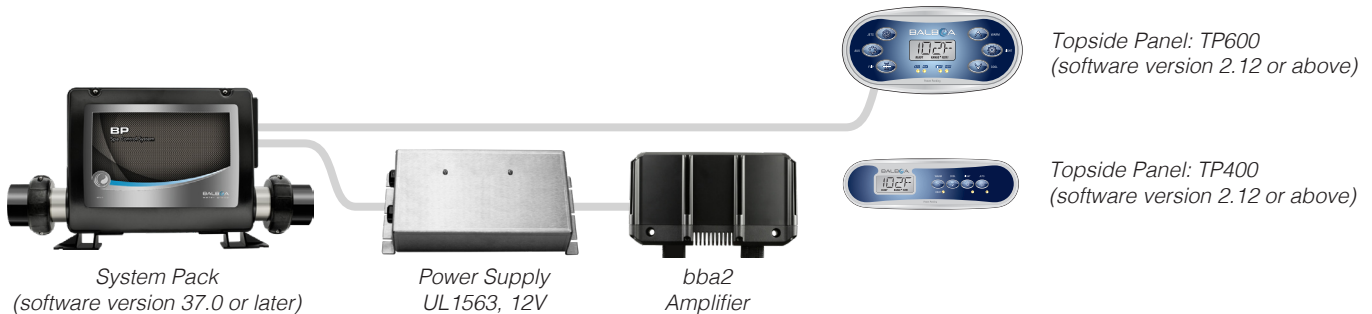
*bba2
Amplifier*

1 - Power up the system pack with bba2 already connected to the system pack.

2 - Turn ON bba2 (view section below).

3 - Turn ON the Bluetooth function of your smart device or music device.

4 - On your smart device or music device, click search for Bluetooth device. Make sure you are close enough to the spa tub.

5 - Select "PPME70BT" from the pairing list. If PPME70BT does not appear, repeat steps 1 - 4.

6 - Click "Connect." Once connected, you can now play your favorite music from your smart device or music device. Some devices may auto-connect in less than a minute.

bba2 operates up to 100 feet in open air. Ranges vary as they are dependant on installations.

Turn ON/OFF bba™2

(Topside Panels: TP600, TP400)

1 - Start at the home screen. The water temperature is displayed by default.

2 - Press Temp (or Warm or Cool) to begin navigation. The set temperature (not the water temperature) will begin flashing in the LCD display.

3 - Press Light until this screen appears. "BT" is an abbreviation for "Bluetooth."

4 - Press Temp to turn ON/OFF bba2. The Home screen appears, when Temp is pressed. No visual cue indicates whether bba2 is ON or OFF. Play music on a smart device to determine whether bba2 is ON or OFF.

*Note: bba2 is always at maximum volume when used with TP600 and TP400 topside panels. **Reduce volume on the smart device before turning ON bba2.***

Troubleshooting

Problem: Song title appears only sometimes or never.

Solution: A few music player apps never send song title and other info over Bluetooth, so try another app. Also, some music player apps don't send song title if playing automatically in the background, only if the app is "visibly running" on the device, so try "opening" the app which is playing in the background.

Problem: An extension cable is needed to install bba2.

Solution: The following extension cables provide flexibility in bba2 placement.

Optional Extension Cables		
Material Number	**Description**	**Length**
25662-3	CABLE EXTENSION TP PANELS	100 FT
25662-2	CABLE EXTENSION TP PANELS	50 FT
25662-1	CABLE EXTENSION TP PANELS	25 FT
25662	CABLE EXTENSION TP PANELS	7 FT

Extension Cable
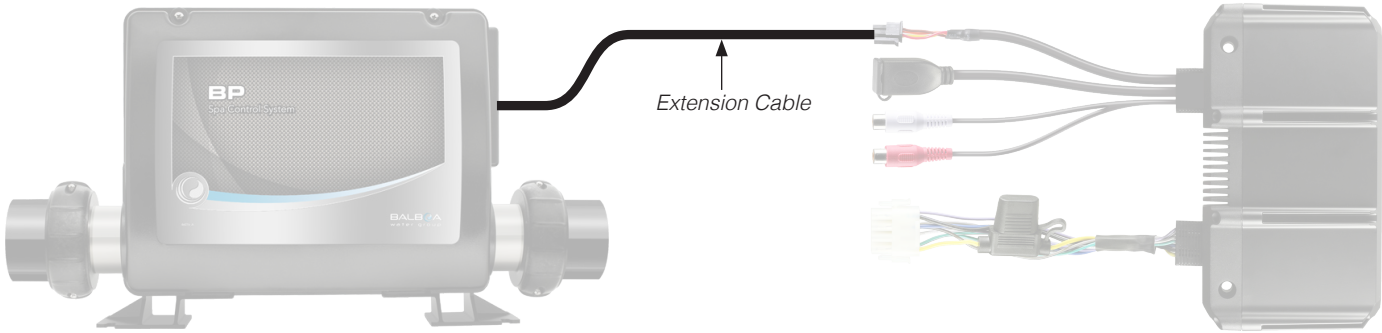
Intellectual Property Advisement

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