SOUND BAR AMPLIFIER KIT with BLUETOOTH and IR REMOTE

Model: SBA302-BT User Manual

MODEL: **SBA302-BT**
DC IN: 18V 2A

This device complies with Part 15 of the FCC Rules.
Operation is subjectto the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received,
including interference that may cause undesired
operation.
FCC ID: OR8-TM-100   IC: 21231-TM100

DIGITAL   ANALOG   USB   ARC   DC IN

ON
OFF

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trademarks of Dolby Laboratories.

MADE IN CHINA

INPUT

Mute
Optical
AUX   HDMI   USB
Music   Movie
Music   SUB   Movie
Volume
SUB   LED

SBA302-BT

The SBA302-BT amplifier is perfect for soundbar projects. With 2 x 30 Watts of power, a variety of inputs, an IR sensor and remote, and even Dolby Digital decoding via HDMI ARC. The design of the amplifier has a separate back panel, control panel, and IR/LED panel allows total flexibility for custom soundbar designs.

FEATURES

- HDMI in, Optical in and AUX in support for easy connection to any audio source
- Bluetooth 5.0 Audio Input for connecting to smart TVs, set top boxes, tablets, cell phone and more
- 2 x 30 Watt Output
- Convenient design for speaker builders, allowing any component to be placed anywhere in the cabinet by making simple rectangular cuts
- HDMI ARC Input supporting Dolby Digital decoding (Dolby Digital Plus and AC3)
- Included IR Remote and IR sensor
- IR Learning to use any IR remote for control
- Various EQ presets
- Control panel with power control, input switching and volume control

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BACK PANEL / AMPLIFIER

Contains the amplifier itself, along with the back panel with all of the amplifier's inputs.
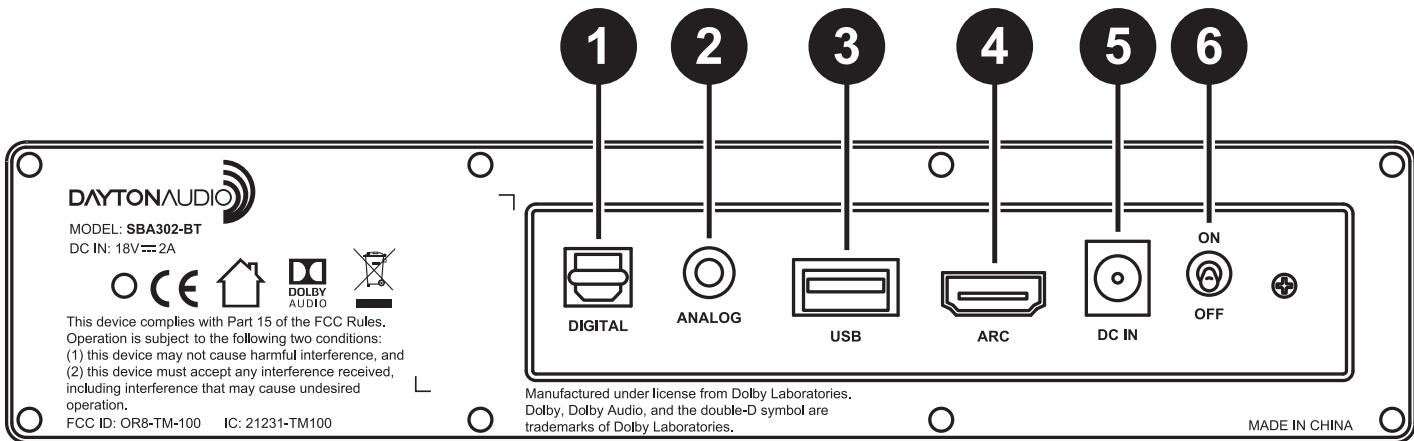
1) **Digital Optical Input –** TOSLINK input is useful for connecting TVs or other digital devices without HDMI ARC support. In most cases, optical does not support volume control via the TV or Projector remote, however, HDMI ARC does support this.

2) **Analog 3.5mm Input –** 3.5mm input is suitable for direct connection to a TV, projector, cell phone, etc. Unlike optical, AUX or headphone outputs on TVs or projectors usually have the advantage of volume control via the TV or projector's remote.

3) **USB Service Input –** For service only. Does not support USB media.

4) **HDMI ARC Input –** Allows for digital audio and HDMI CEC control directly from a TV or other HDMI ARC supported device. This input also supports Dolby Digital Decoding, which will illuminate a second LED on the soundbar if it is in use. A supported HDMI cable (version 1.4 or higher) is required.

5) **DC IN –** 18 V, 3A DC

6) **Power Toggle –** Turns the soundbar on or off.

CONTROL PANEL

1) **Power Control & Mute –** Short click once to exit standby mode and enable the amplifier. Once out of standby mode, the LED will display a color corresponding to the current input. Short click once to mute the amplifier (the LED will turn pink). Long click (3 seconds) to enter standby mode (LED will turn red).

2) **Bluetooth Button –** Click once to enter Bluetooth mode. Hold to enter pairing mode (LED will blink blue).

3) **Input Switching –** Click to cycle through the various input modes. The LED will change to indicate the current mode (see color chart below). This button can also be long pressed to enter an IR Remote Learning mode, which is detailed in a later section.

4) **Volume Down –** Click once to turn down the volume by one step. Hold to continually turn down the volume. The LED will blink to indicate a volume change. If the LED does not blink, the volume has reached its minimum.

5) **Volume Up –** Click once to turn up the volume by one step. Hold to continually turn down the volume. The LED will blink to indicate a volume change. If the LED does not blink, the volume has reached its minimum.

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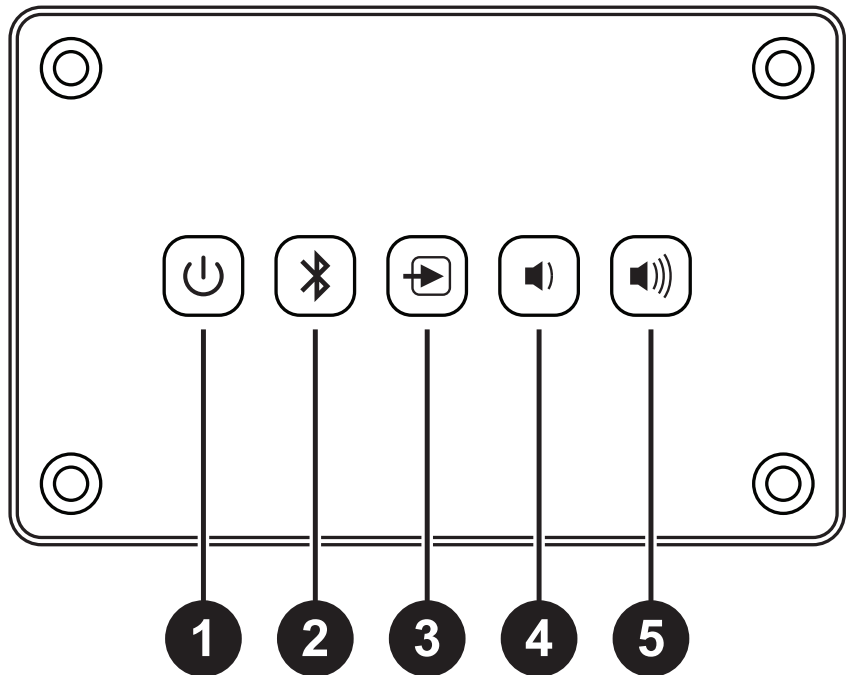
FRONT PANEL - IR SENSOR and LEDs

1) Dolby Digital LED – Illuminates when connected via HDMI ARC to a Dolby Digital Source. If connected via HDMI and audio plays but it does not illuminate, that means your audio source is not set to Dolby Digital. See your source devices' settings menu to enable Dolby Digital, if supported.

2) IR Sensor Target – Takes input from the IR remote control to control various functions of the amplifier such as volume, source and preset.

3) Status LED – This LED will change according to the selected input and the power status.

| RED	STANDBY
GREEN	AUX INPUT
DARK BLUE	BLUETOOTH 5.0
WHITE	OPTICAL
LIGHT BLUE	HDMI ARC
YELLOW / ORANGE	USB MODE (Service)
PINK	DEVICE MUTED
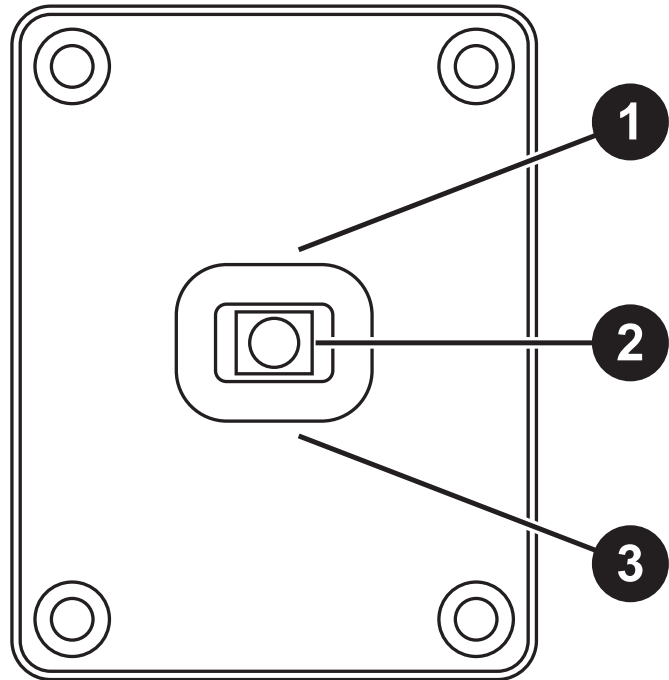
Note: LEDs can be temporarily disabled for a better viewing experience by pressing the "LED" button on the IR Remote.

REMOTE

The included IR remote works by pointing it at the soundbar amplifier's IR sensor (front panel) and pressing the buttons. The amplifier can learn how to use other IR remotes, such as your TV remote as well. A guide for the IR learning function can be found on page 8.

1) Power Toggle – Press to toggle the soundbar in and out of standby. The LED will be red in standby mode.

2) Mute – Press once to mute. The LED will turn purple when muted. Mute can be disabled by pressing the mute button again or by pressing a volume button.

3) Input Switching – Press any of the buttons to change the current input source.

4) Preset Switching – See the next section for a description of the presets.

5) Volume Control – Press once to turn up/down the volume by one step. Hold to continually turn up/down the volume. The LED will blink to indicate a volume change. If the LED does not blink, the volume has reached its minimum/maximum.

6) LED Toggle – Toggles the front panel LEDs on or off for a better viewing experience.

7) Wireless Sub Volume – Control the volume of the connected wireless subwoofer (Not available at this time).

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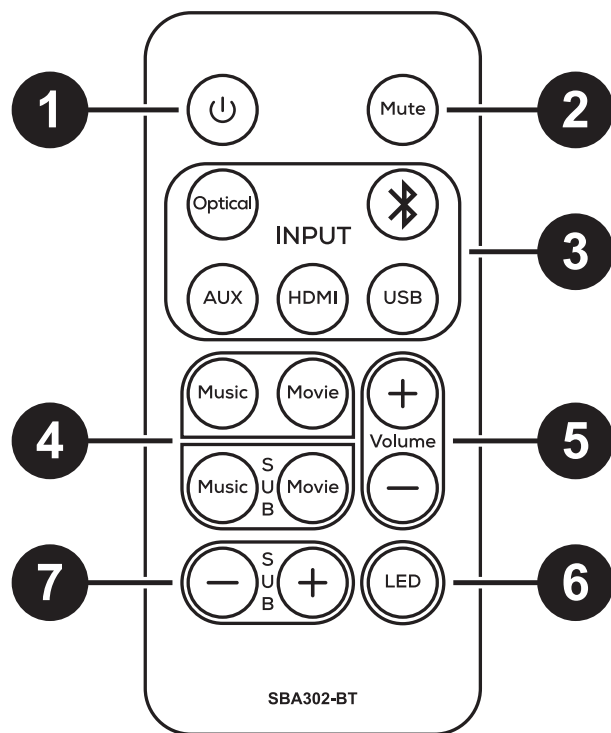
PRESETS

The SBA302-BT amplifier comes with 4 pre-defined sound presets, which are switchable via the included IR remote. There are 2 different sets of pre-sets, with a total of 4 presets, as can be seen on the remote. The presets that say "sub" in the middle are intended to be used **with** a subwoofer, and have a high pass filter enabled for smoother integration of the soundbar with a subwoofer. This means that the **"SUB" presets will have LESS bass.** The "Sub" EQ presets can also be useful for listening at night time to prevent bass from the soundbar disturbing sleeping neighbors or household members. In order to integrate a subwoofer, you must split the input signal prior to the soundbar amplifier and route the additional signal to the subwoofer.
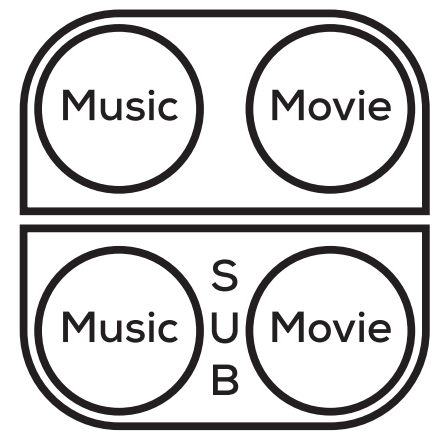
Note: If you purchased the SBA302-BT as part of a full soundbar speaker kit from Parts Express, your SBA302-BT will have additional EQ applied to it to make the kit sound its best. If you have purchased the SBA302-BT separately, the table below describes ALL of the EQ applied. The music preset provides a "flat" response

Preset Name	EQ Effect 1	EQ Effect 2
Music (No effects)	N/A	N/A
Movie (Treble Boost)	+3dB Treble Shelf @ 4000 Hz	N/A
Music w/ Sub (Bass Cut)	N/A	2nd Order HPF @ 120 Hz
Movie w/Sub (Treble Boost, Bass Cut)	+3dB Treble Shelf @ 4000 Hz	2nd Order HPF @ 120 Hz

IR REMOTE LEARNING

The SBA302-BT amplifier can be taught to work with any IR Remote Control! For example, instead of using the included IR Remote, you can program the amplifier to respond to commands from your TV remote or any other remote you might have. This is especially useful if you are using an optical connection rather than an HDMI ARC connection.

Note: Only buttons present on the control panel will work with a new remote. Buttons such as presets and LED toggle cannot be learned, and the original remote that comes with the amplifier must be used.

STEPS

1) Make sure that your SBA302-BT amplifier is turned on and out of standby mode (the LED should not be red), and your desired remote has battery power and is functioning correctly.

2) Long press the [input switching icon] (input switching) button on your control panel for 5 seconds. After 5 seconds, the indicator LED on the front panel will start blinking.

   Note: If your input was previously set to Bluetooth, but you do not have a device paired to the amplifier, your LED would have already been blinking. If unsure, set your device to a different input mode (like aux, green LED) and repeat this step.

3) Press any button on the soundbar's control panel that you would like to learn. The indicator LED will turn off.
4) While pointing your IR remote at the soundbar, press your desired button on the remote. The indicator LED will then blink 3 times, which indicates that learning was successful.
5) You can now test your new button.
6) Repeat steps 2 – 5 to learn new buttons.

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INSTALLATION GUIDE

CUTOUTS

The SBA302-BT will require 3 cutouts to be made in your soundbar.

1) The first is for the back panel, which also houses the amplifier module that contains all of the inputs, outputs, and power connecons. This will usually go on the back of your soundbar.

46 mm · 31 mm · 200 mm · 216 mm
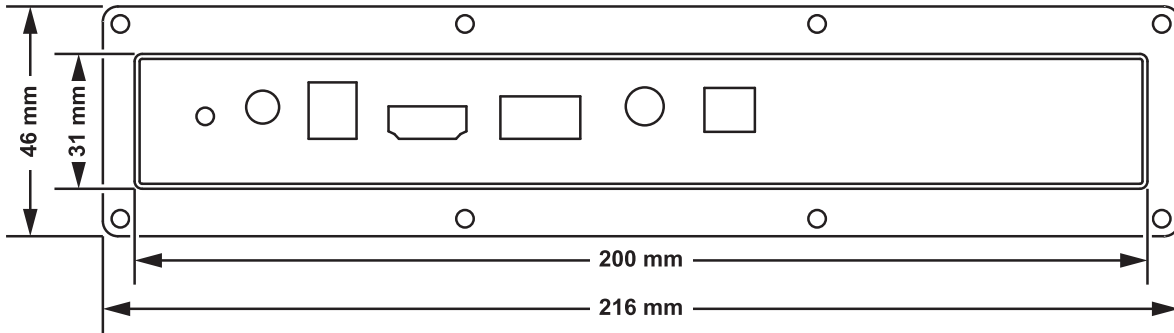
2) The next cutout needed is for the control panel for the amplifier, which will house various controls such as power switching, input switching, and preset controls.


58 mm · 32 mm · 60 mm · 89 mm
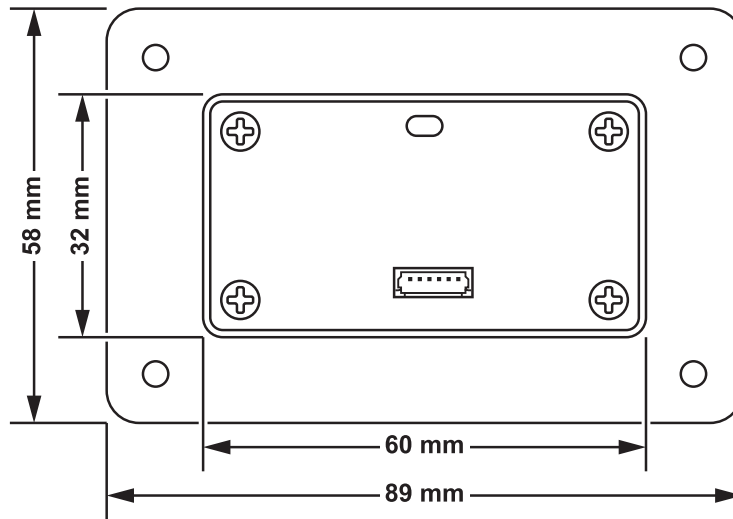
3) The last cutout will be for the front panel, which houses the IR sensor target and also the status LEDs.

58 mm · 39 mm · 31 mm · 46 mm

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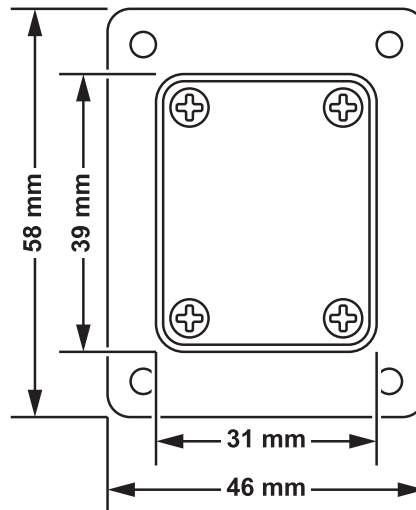
CONNECTIONS

The SBA302-BT is a simple plug and play design, and requires just a few connections to be made. Take care when making connection or especially disconnecting. Damaged cables or connectors can cause issues that may be difficult to diagnose.
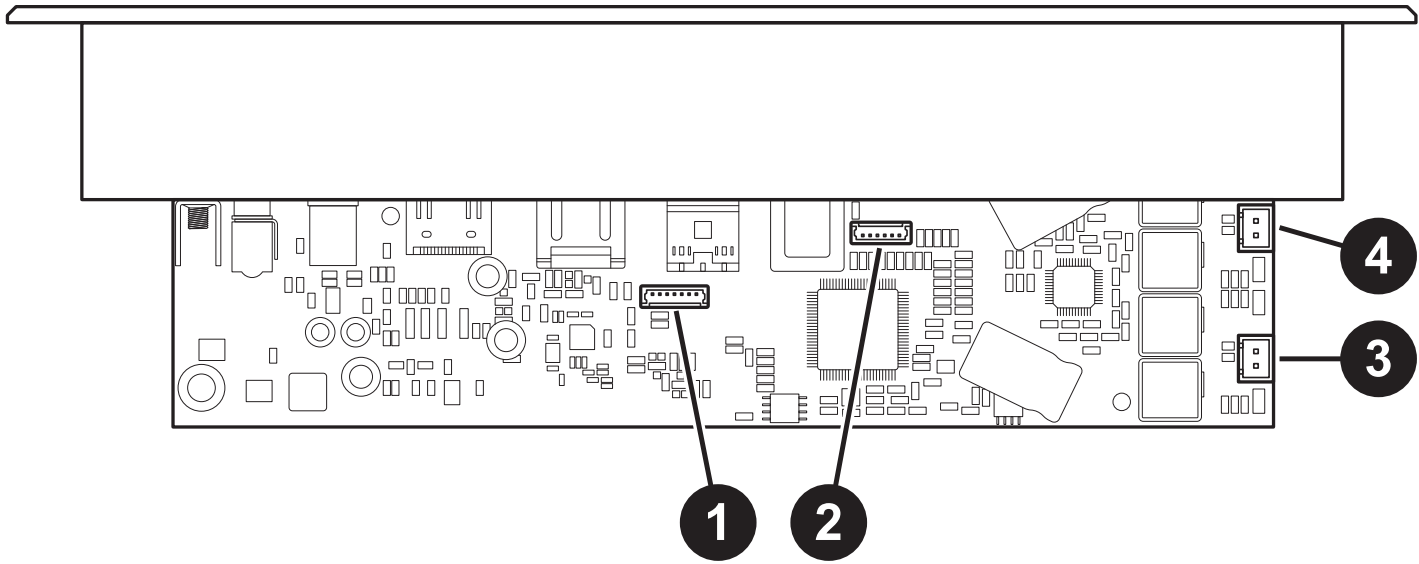
1) **Front Panel –** The 6" 7-pin cable will come pre-attached to the front panel (houses the status LEDs and IR target). The other end needs connected to the 7-pin header on the amplifier board.
2) **Control Panel –** The 23" 6-pin cable for the control panel will come in the pack of wires that you also use for your speaker connections. Plug one end of the cable into the control panel, and the other end into the 6-pin header on the amplifier board.
3) **Right Speaker –** Using one of the 2-pin cables that come with the amplifier kit (22" red/black wire), connect your loudspeaker or crossover circuit for the right channel into the header on the amplifier board.
4) **Left Speaker –** Using one of the 2-pin cables that come with the amplifier kit (28" blue/black wire), connect your loudspeaker or crossover circuit for the left channel into the header on the amplifier board.

SPECIFICATIONS

Model	Dayton Audio SBA302BT
RMS Power @ 4 Ohms	2 x 30W
Inputs	HDMI ARC, Bluetooth 5.0, Optical, Analog 3.5mm
Dolby Digital Formats	Dolby Digital Plus, AC3
Frequency Response	20-20KHz
S/N Ratio, A Weighted	>96.3 dB
THD+N @ Rated Power	1%
Maximum Input Sensitivity	2.3V RMS
Power Consumption (Standby)	0.5W
Power Consumption (Max)	66.5W
Power Supply (External)	18V, 3A
Warranty	5 Years

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TROUBLESHOOTING

Q) HDMI ARC is not working

A) Check that your HDMI cable is HDMI ARC compatible (version 1.4 or higher). If unsure, any new HDMI cable that you purchase should be compatible. In general, only very old HDMI cables are not compatible.

Check that you have your HDMI cable plugged into the HDMI port on your TV labeled "ARC".
Check your TV's documentation for enabling ARC if it is not automatic.

Q) I am using HDMI ARC and audio is working, but the second LED is not illuminated to indicate Dolby Digital decoding is occurring.

A) This indicates that the digital audio from your TV is being sent via HDMI ARC to your soundbar completely uncompressed already, which means decoding/decompressing the signal is not necessary in this setup. If desired, this can usually be changed on your TV by specifically selecting Dolby Digital in your digital audio output settings (vs something like PCM or direct), which will vary depending on your TV.

Q) I am not getting any output, or the output is all noise when using optical mode.

A) First, check that your audio is working properly in another mode, like Bluetooth or aux. If it is not, re-follow the installation guide to make sure your connections are correct.

In most cases, a TV or other source device will automatically configure itself properly for optical output to the SBA302-BT. If it is not working, find the audio settings of your TV or other source. There should be an option to -change digital audio output to 2 channel PCM audio or to auto detect. If this does not solve your problem, check that your optical cable is free of damage and is connected properly, and try a new cable. If you are unsure which optical option on your TV to use, feel free to try all of them until it sounds right. You might want to turn down the volume of your soundbar first to prevent any damage from unexpected sounds from having the wrong settings.

Q) I am not getting sound out of one or both of my attached speakers.

A) Look through the directions found in the installation section of this manual. You will need to ensure that all of the proper connections are made to the amplifier itself, and also that your drivers (speakers) are connected to the speaker wires coming from the amplifier. Otherwise, the issue is likely from your input source. Verify that audio first works through the AUX input, by attaching a cell phone, laptop, TV headphone jack, etc. If this input works but others do not, it is likely a problem with your source device (wrong TV settings, bad output jack, etc).

Q) My remote is not working!

A) Check that the battery is installed in the bottom of the controller. Ensure that the front panel (LED and IR target panel) is plugged into the correct port on the amplifier. Make sure that you are pointing the remote at the IR target and that the IR target is not obsctructed. Make sure the amplifier is switched on in the back and connected to power with the included power supply.

5-Year Limited Warranty
See daytonaudio.com for details

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