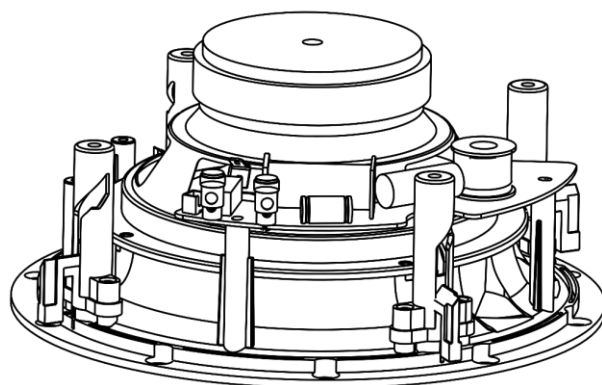
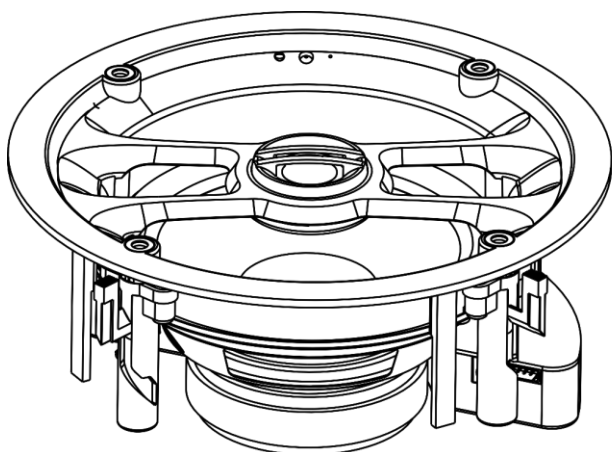


DAP

USER MANUAL



ENGLISH

WCSS-230 G2 WiFi Speaker

V1

Product code: D6451

Preface

Thank you for purchasing this DAP product.

The purpose of this user manual is to provide instructions for the correct and safe use of this product.

Keep the user manual for future reference as it is an integral part of the product. The user manual shall be stored at an easily accessible location.

This user manual contains information concerning:

- Safety instructions
- Installation and operation of the device
- Intended and non-intended use of the device
- Maintenance procedures
- Troubleshooting
- Transport, storage and disposal of the device

Non-observance of the instructions in this user manual may result in serious injuries and damage of property.

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1. Introduction

1.1. Before Using the Product



Important

Read and follow the instructions in this user manual before installing, operating or servicing this product.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

After unpacking, examine the contents of the box. If any parts are missing or damaged, contact your Highlite International dealer.

Your shipment includes:

- DAP WCSS-230 G2 WiFi Speaker (active + passive)
- Schuko to IEC power cable (1 m)
- Cutout template
- 24 V AC power adapter (1,2 m)
- 2 x speaker grill
- Remote control
- Installation tool
- User manual

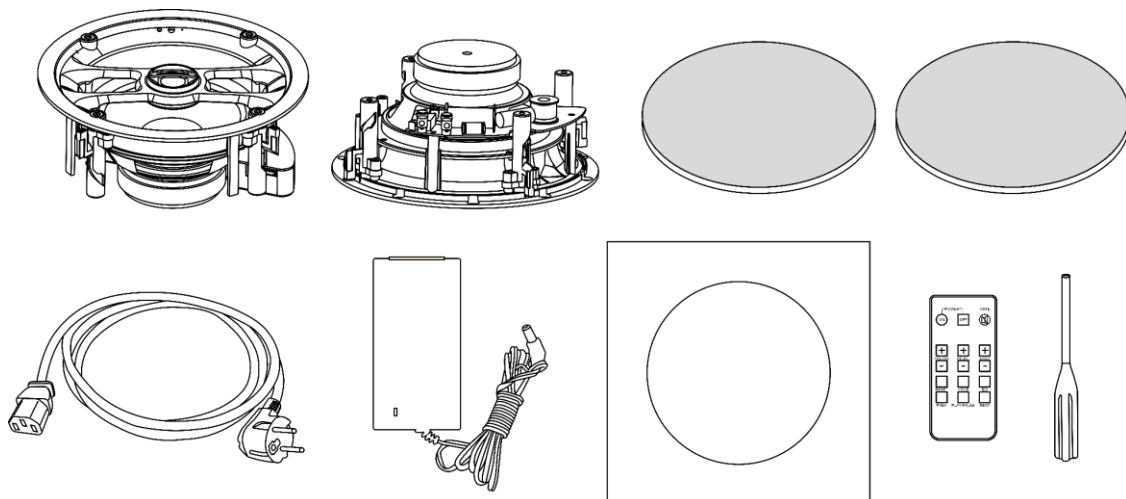


Fig. 01

1.2. Intended Use

This device is intended for use as a ceiling speaker. The device is suitable for fixed permanent installation in commercial and public spaces. It can be installed indoors. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

1.3. Text Conventions

Throughout the user manual the following text conventions are used:

- References: References to chapters and parts of the device are in bold lettering, for example: "Refer to **2. Safety**", "press the **power switch (03)**"
- 0–255: Defines a range of values
- Notes: **Note:** (in bold lettering) is followed by useful information or tips

1.4. Symbols and Signal Words

Safety notes and warnings are indicated throughout the user manual by safety signs.

Always follow the instructions provided in this user manual.



DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.



Attention

Indicates important information for the correct operation and use of the product.



Important

Read and observe the instructions in this document.



Provides important information about the disposal of this product.



1.5. Symbols on the Information Label

This product is provided with an information label. The information label is located on the bottom plate of the device.

The information label contains the following symbols:



This device is designed for indoor use.



Read and observe the instructions in this document.



This device shall not be treated as household waste.



2. Safety

**Important**

Read and follow the instructions in this user manual before installing, operating or servicing this product.

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

2.1. Warnings and Safety Instructions

**DANGER**

Danger for children

For adult use only. The device must be installed beyond the reach of children.

- Do not leave various parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within children's reach. Packaging material is a potential source of danger for children.

**Attention**

Incorrect handling of the AC power adapter may result in hazardous situations

This device is delivered with an AC power adapter. Incorrect handling of the AC power adapter may result in hazardous situations.

- Use only the AC power adapter delivered with the device.
- Do not wrap the power cable around the power adapter or any other object. This can damage the internal wires.
- Do not cover the power adapter with anything when it is plugged into the socket-outlet. This may cause overheating.
- Do not expose the power adapter to water or other liquids.

Do not use the power adapter:

- If it shows signs of overheating, for example the plastic is damaged
- If the AC input pins show signs of corrosion or overheating
- If the power cable is damaged or shows signs of material fatigue.

**Attention**

General safety

- Do not shake the device. Avoid brute force when installing or operating the device.
- If the device is dropped or struck, disconnect the device from the electrical power supply immediately.
- If the device is exposed to extreme temperature variations (e.g. after transportation), do not switch it on immediately. Let the device reach room temperature before switching it on, otherwise it may be damaged by the formed condensation.
- If the device fails to work properly, discontinue the use immediately.



Attention

This device shall be used only for the purposes it is designed for.

This device is designed to be used as a ceiling speaker. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

- This device is not suitable for households.
- This device does not contain user-serviceable parts. Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.



Attention

Do not expose the device to conditions that exceed the rated IP class conditions.

This device is IP20 rated. IP (Ingress Protection) 20 class provides protection against solid objects greater than 12 mm, such as fingers, and no protection against harmful ingress of water.

2.2. Requirements for the User

This product may be used by ordinary persons. Maintenance may be carried out by ordinary persons. Service and installation shall be carried out only by instructed or skilled persons. Contact your Highlite International dealer for more information.

Instructed persons have been instructed and trained by a skilled person, or are supervised by a skilled person, for specific tasks and work activities associated with the installation, service and maintenance of this product, so that they can identify risks and take precautions to avoid them.

Skilled persons have training or experience, which enables them to recognize risks and to avoid hazards associated with the installation, service and maintenance of this product.

Ordinary persons are all persons other than instructed persons and skilled persons. Ordinary persons include not only users of the product but also any other persons that may have access to the device or who may be in the vicinity of the device.

3. Description of the Device

The DAP WCSS-230 G2 is a set of two 6,5-inch ceiling speakers. The active speaker has an integrated 2 x 30 W class D amplifier and is equipped with an SMPS. The device has a volume limiter that limits the output to 50 % (2 x 15 W).

The device can be used for streaming of music via ethernet and Wi-Fi. The device can be paired via Wi-Fi with any Android or iOS device. The device can be used in multi-room setups. It can also be connected to wired audio sources.

The device can be used with the SmartSonix app (available for iOS and Android). The app can be used for streaming of music from any music platform.

3.1. Top View

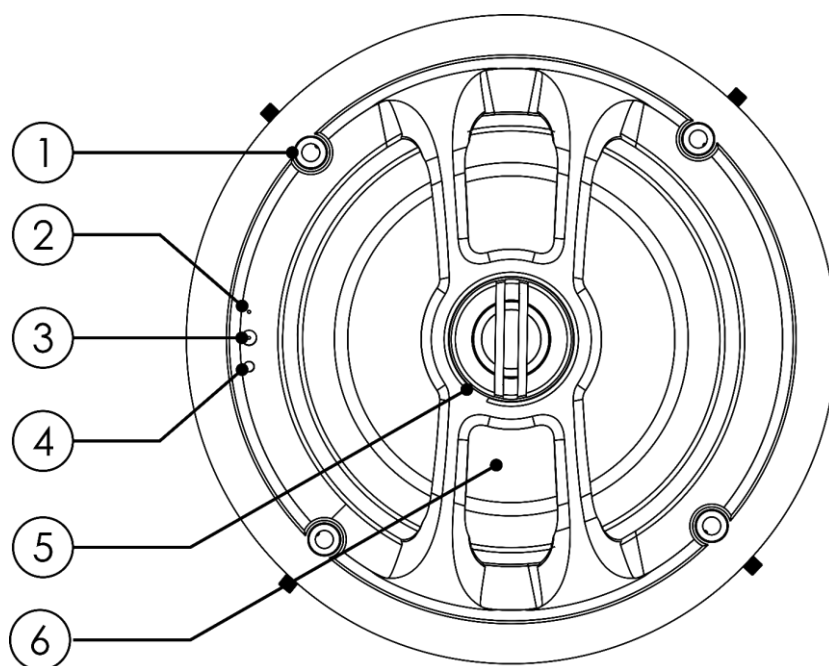


Fig. 02

- 01) 4 x dog-leg button
- 02) Status LED indicator
- 03) Infrared port (IR)
- 04) Function button
- 05) Pivoting tweeter
- 06) Woofer

3.2. Active Speaker

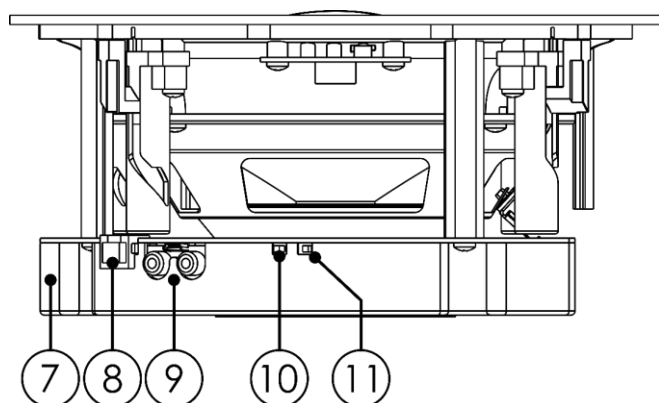


Fig. 03

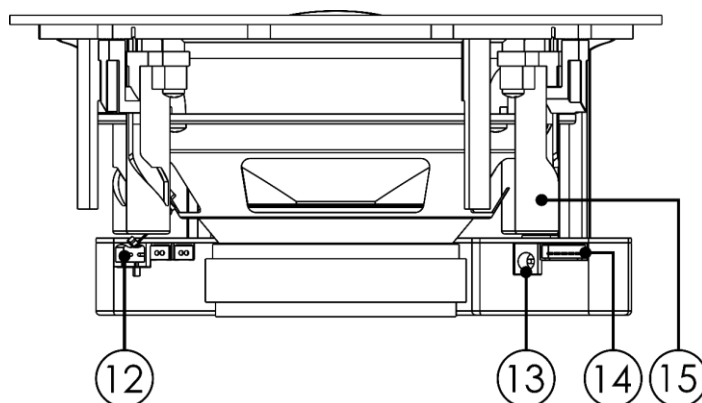


Fig. 04

- | | |
|---|--|
| 07) Built-in amplifier | 12) 2-pin terminal connector OUT (+/-) |
| 08) RJ45 ethernet connector IN | 13) 24 V DC power connector IN |
| 09) RCA line-level connectors IN (Left/Right) | 14) 6-pin connector IN |
| 10) Stereo/mono switch | 15) 4 x dog leg |
| 11) Volume limiter switch | |

3.3. Passive Speaker

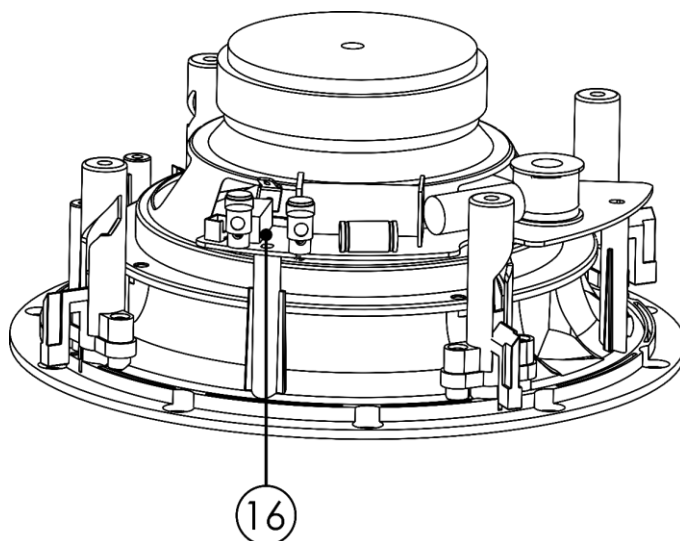


Fig. 05

- 16) 2-pin terminal connector IN

3.4. Product Specifications

Model:	WCSS-230 G2 WiFi Speaker	
AC power adapter:		
Input voltage:	100–240 V AC, 50/60 Hz	
Output voltage:	24 V DC	
Audio specifications:		
Speaker system:	2-way	
Speaker sensitivity (1 W/1 m):	87 dB	
Speaker impedance:	8 Ω	
Maximum SPL at 1 m:	103 dB	
Frequency response:	70–20000 Hz	
Woofer diameter:	6,5 "	
Compression driver diameter:	0,75 "	
Wireless:		
Carrier frequency:	2,4 GHz	
Control mode:	Wi-Fi/LAN to RF	
Physical:		
Installation depth:	100 mm	
Dimensions:	233 x 233 x 105 mm (L x W x H)	
Weight:	3,4 kg	
Connections:		
Power connections:	24 V DC power connector IN	
Input connections:	RJ45 ethernet connector IN RCA line-level connectors IN 2-pin speaker connectors IN	
Output connections:	2-pin terminal connector OUT	
Construction:		
Housing:	ABS, aluminum, steel	
Speaker grill material:	Iron	
Color:	White	
IP rating:	IP20	
Thermal:		
Maximum ambient temperature t _a :	45 °C	
Minimum ambient temperature t _a :	0 °C	

3.5. Dimensions

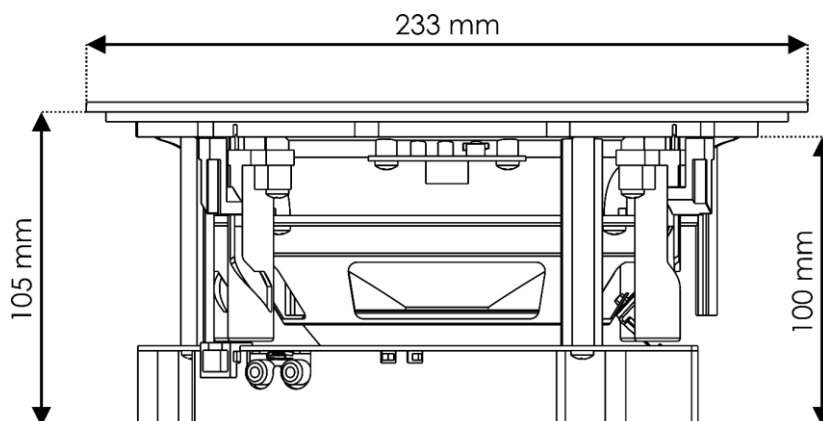


Fig. 06

4. Installation

4.1. Safety Instructions for Installation



WARNING

Incorrect installation can cause serious injuries and damage of property.

- Make sure that the ceiling can hold the weight of the device.
- Make sure that the installation location on the ceiling is free of any obstructions and the speaker cables do not come in contact with other objects.

4.2. Installation Site Requirements

- The device can be only used indoors.
- The device can be mounted on a ceiling.
- The maximum ambient temperature $t_a = 45\text{ °C}$ must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 45 °C.

4.3. Installation



Attention

Connect all cables before installation.

To mount the device, you need:

- Cutting saw
- Pencil
- Drill bits
- Power drill

To install the device, follow the steps below:

- 01) Cut out mounting openings on the ceiling. See **4.3.1. Cutting Out a Mounting Opening** on page 11.
- 02) Connect the passive speaker. See **4.3.2. Connecting the Passive Speaker** on page 12.
- 03) Set the signal type. See **4.3.3. Setting the Signal Type** on page 12.
- 04) Set the volume limiter. See **4.3.4. Setting the Volume Limiter** on page 12.
- 05) Connect a line-level device (optional). See **4.3.5. Connecting Line-level Devices** on page 13.
- 06) Connect the power adapter to the active speaker.
- 07) Connect the power adapter to the power supply. See **4.3.6. Connecting to Power Supply** on page 14.
- 08) Install the speakers in the mounting openings. See **4.3.7. Installing the Speaker** on page 15.

4.3.1. Cutting Out a Mounting Opening

Before cutting out a mounting opening, make sure that there is at least 100 mm of free space behind the ceiling. If there is not enough free space, it is not possible to mount the speaker.

- 01) Remove the outer ring from the supplied cutout template (Ø 209 mm).
- 02) Hold the cutout template against the ceiling and mark the speaker location (Fig. 07).

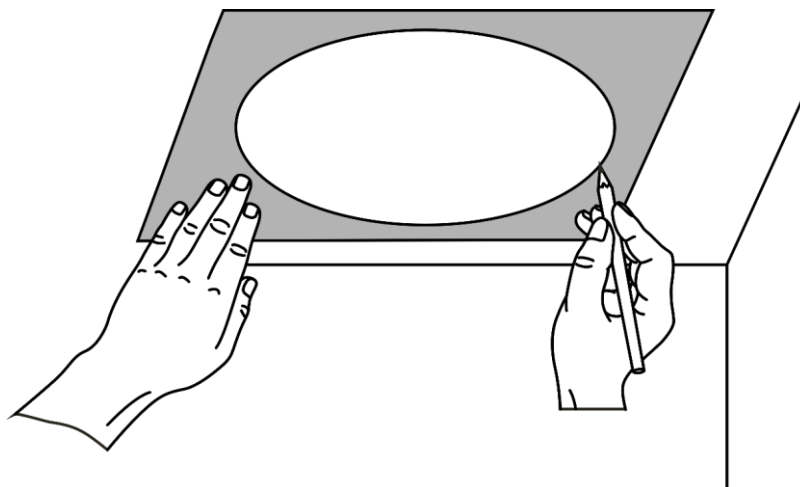


Fig. 07

- 03) Drill a pilot hole in the ceiling.
- 04) Use a cutting saw to cut out a mounting opening (Fig. 08).

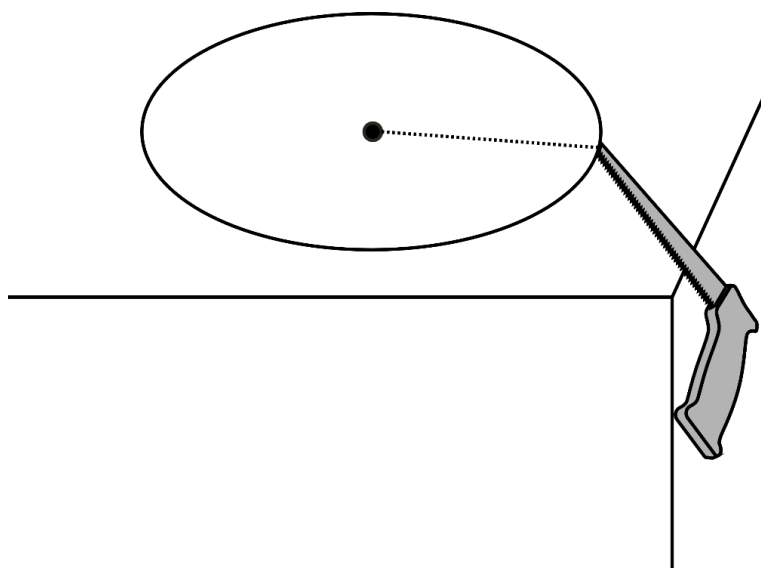


Fig. 08

4.3.2. Connecting the Passive Speaker

Use signal cables to connect the **2-pin terminal connector OUT (12)** of the active speaker to the **2-pin terminal connector IN (16)** of the passive speaker. Make sure that the cable polarity is correct (+/-) (Fig. 09).

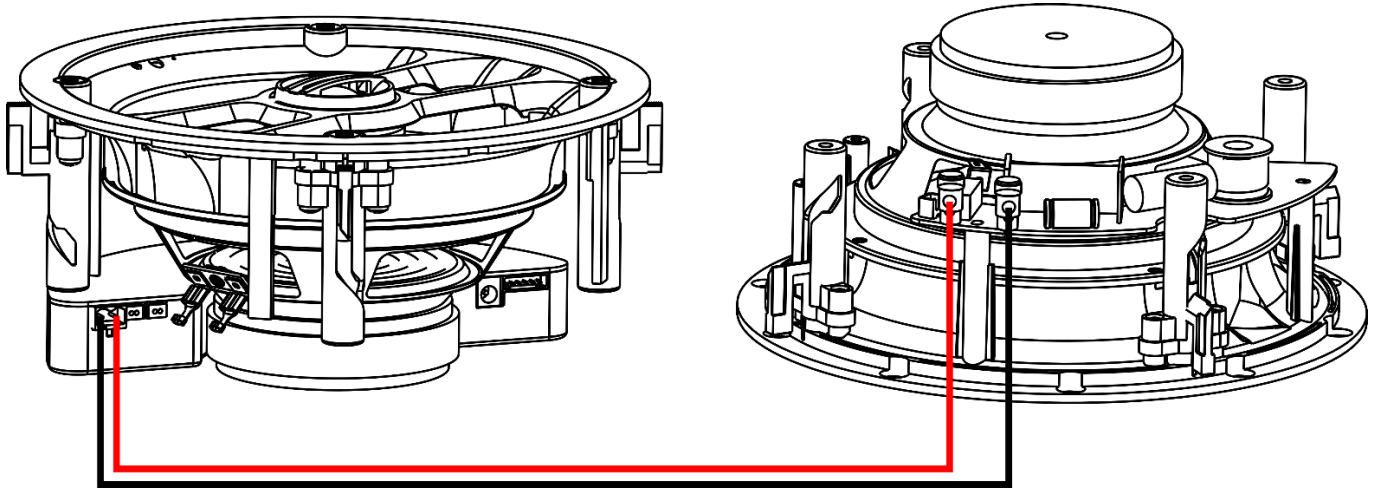


Fig. 09

4.3.3. Setting the Signal Type

You can set the signal type (mono or stereo).

- Set the **stereo/mono switch (10)** to STEREO when the passive speaker is connected.
- Set the **stereo/mono switch (10)** to MONO when the passive speaker is not connected.

4.3.4. Setting the Volume Limiter

You can activate the volume limiter. When the volume limiter is active, the total output (2 x 30 W) will be limited to 50 % (2 x 15 W).

Set the **volume limiter switch (11)** to LIMITER ENABLED to activate the volume limiter.

4.3.5. Connecting Line-level Devices

You can connect the speakers to line-level devices (e.g. an amplifier or a media player). If you want to use the speakers only to stream music, you do not need to read this chapter.

To connect the speakers to a line-level device, follow the steps below:

- 01) Connect the **RCA line-level connector IN (09)** (-) of the active speaker to the (-) output of an amplifier or other device.
- 02) Connect the **RCA line-level connector IN (09)** (+) of the active speaker to the (+) output of an amplifier or other device.

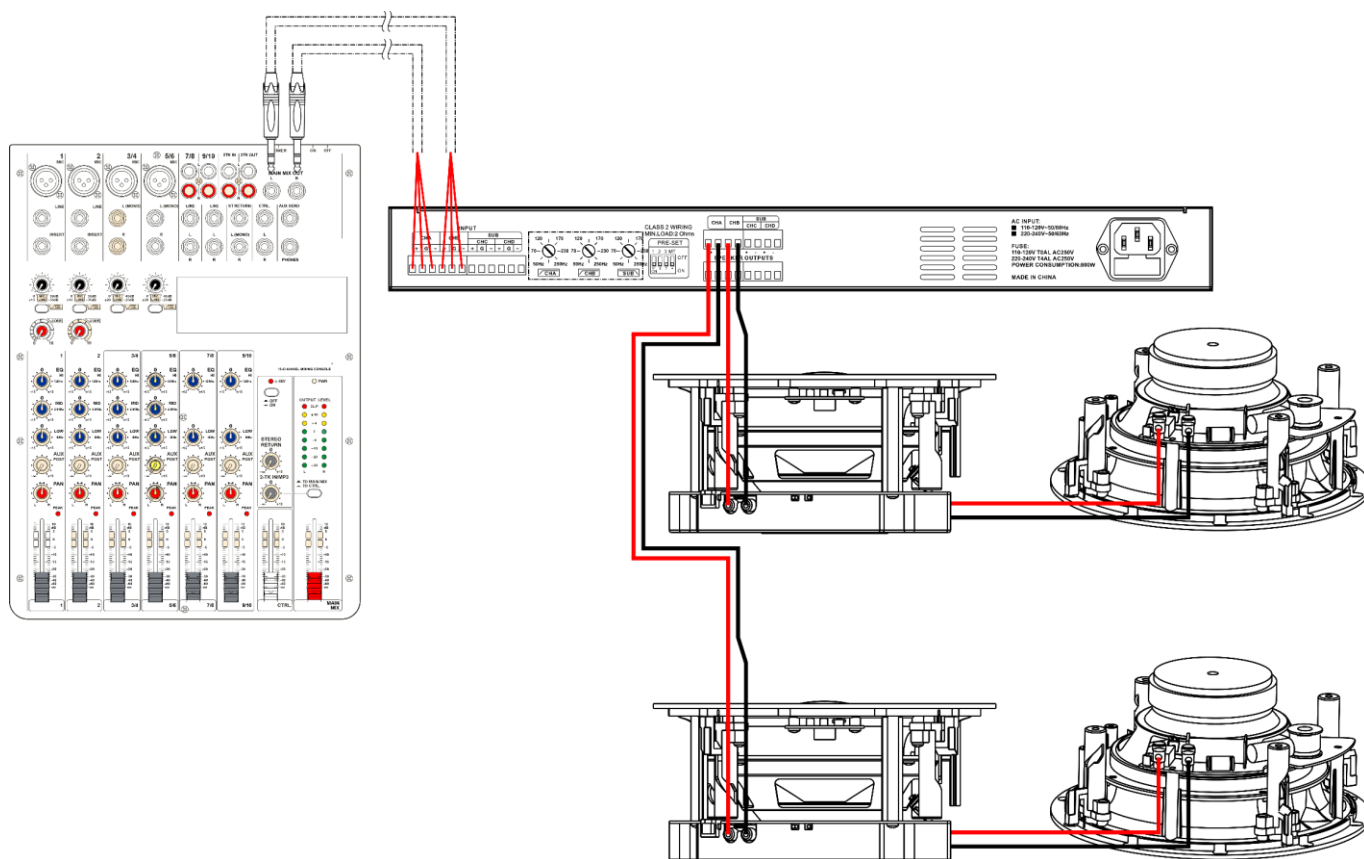


Fig. 10

- 03) Switch on the line-level devices.

4.3.6. Connecting to Power Supply

**Attention**

Incorrect handling of the AC power adapter may result in hazardous situations

This device is delivered with an AC power adapter. Incorrect handling of the AC power adapter may result in hazardous situations.

Use only the AC power adapter delivered with the device.

To connect the power adapter to the device:

- Connect the delivered Schuko to IEC cable to the delivered AC power adapter.
- Connect the AC power adapter to the **24 V DC power connector IN (13)** on the active speaker.

**Attention**

Power supply

Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.

To connect the active speaker to the power supply, follow the steps below:

Connect the Schuko plug of the AC power adapter to the socket-outlet. The **status LED indicator (02)** will rapidly flash red.

4.3.7. Installing the Speaker



Attention
Connect all cables before installation.

Make sure that all devices are connected and all settings are correct before installing the speaker on the ceiling.

To install the speaker, follow the steps below:

- 01) Insert the installation tool, delivered with the device, into each of the 4 **dog-leg buttons (01)** and push. The **dog legs (15)** will lock (Fig. 11).

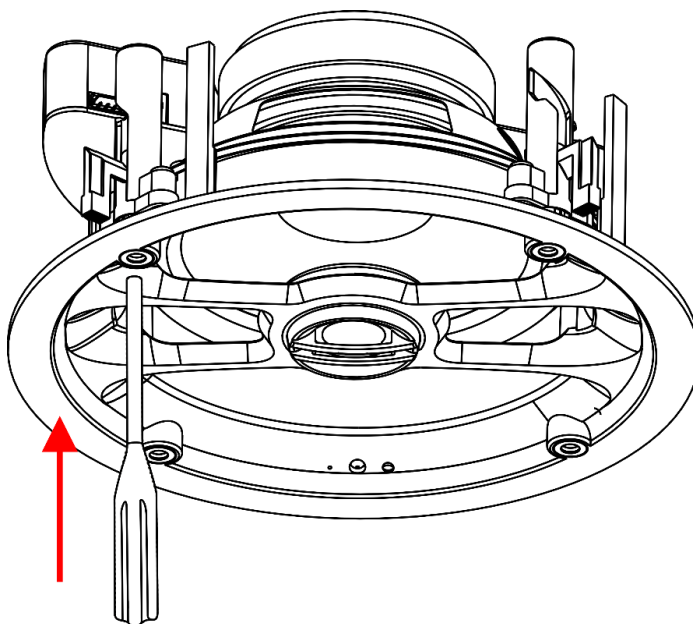


Fig. 11

- 02) Insert the speaker into the mounting opening (Fig. 12).

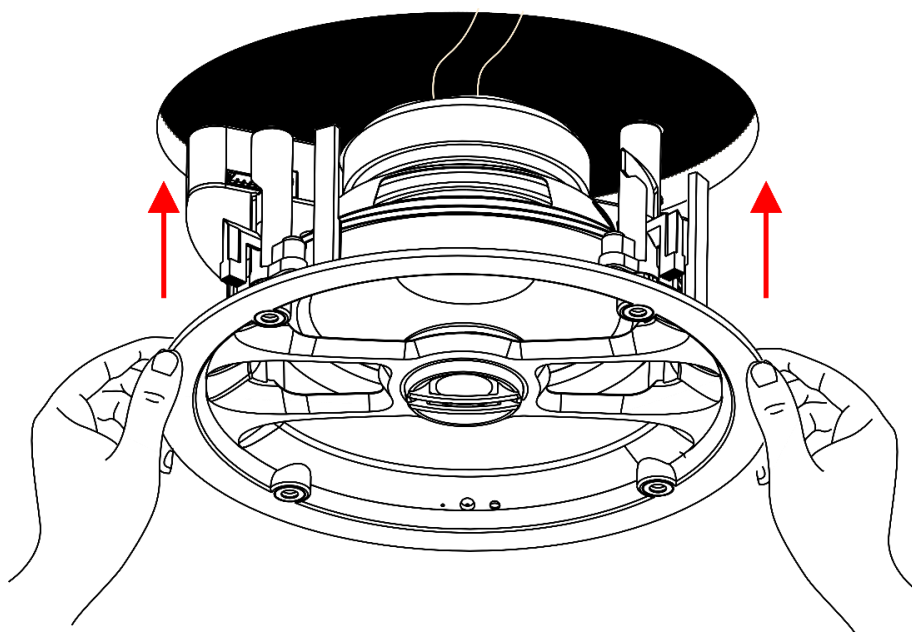


Fig. 12

- 03) Press the **dog-leg buttons (01)** to unlock the **dog legs (15)**. The **dog legs (15)** hold the device in position (Fig. 13).

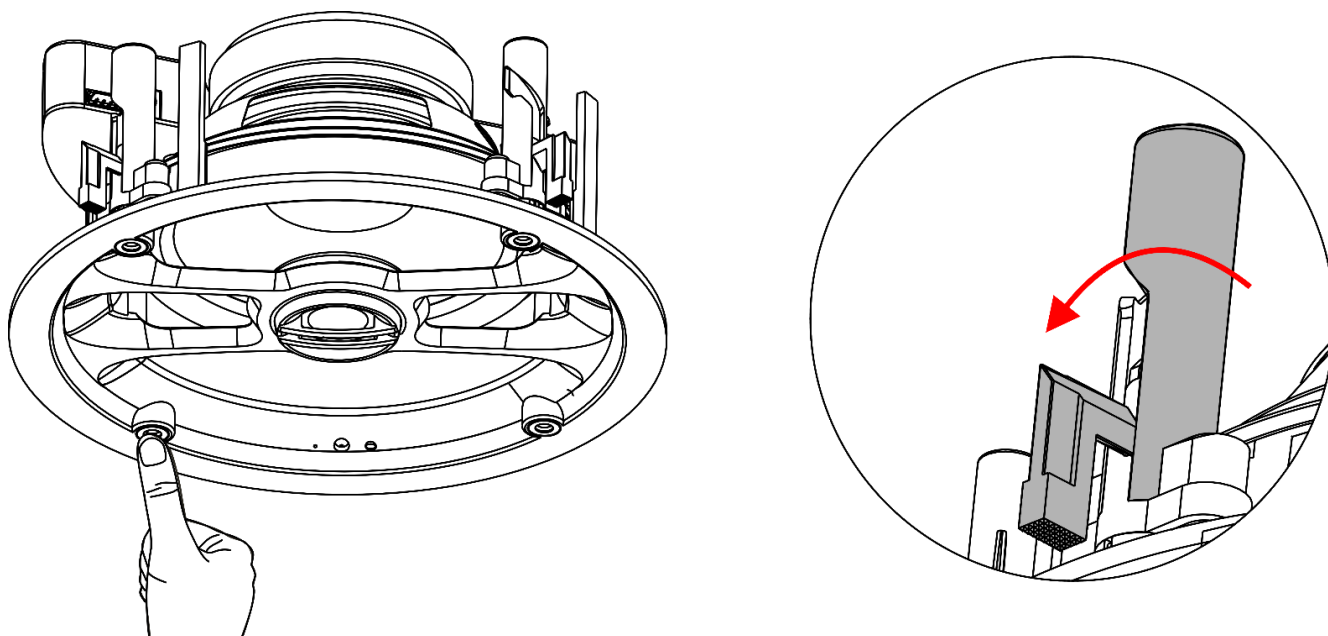


Fig. 13

- 04) Attach the speaker grill, delivered with the device, to the speaker. The magnets in the speaker rim hold the speaker grill in position (Fig.14).

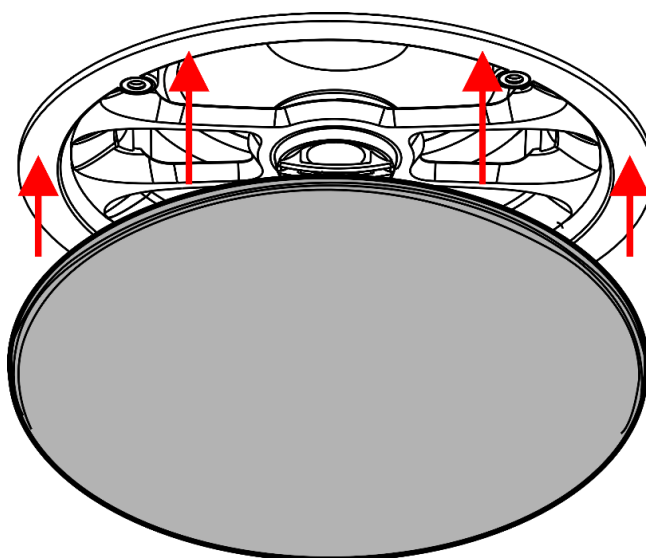


Fig. 14

Note:

It is possible to spray-paint the speaker grill, to match the color of the ceiling.

Before spray-painting, remove the protective cloth from the speaker-grill.

5. Setup

5.1. Stand-alone Setup

The WCSS-230 G2 WiFi Speaker functions as a stand-alone device. It can be operated manually or with an infrared (IR) remote control.

5.2. Network Connection

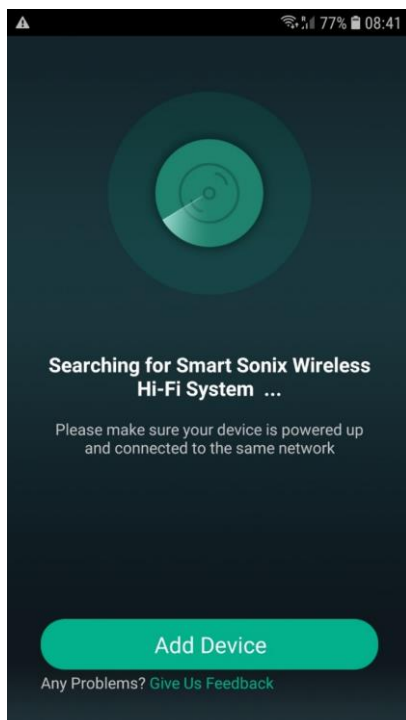
Use the SmartSonix app to pair your streaming device with the active speaker. The active speaker will play audible messages informing you about the pairing status.

The active speaker can be connected to streaming devices with a wireless module (Wi-Fi) or with a network cable (LAN).

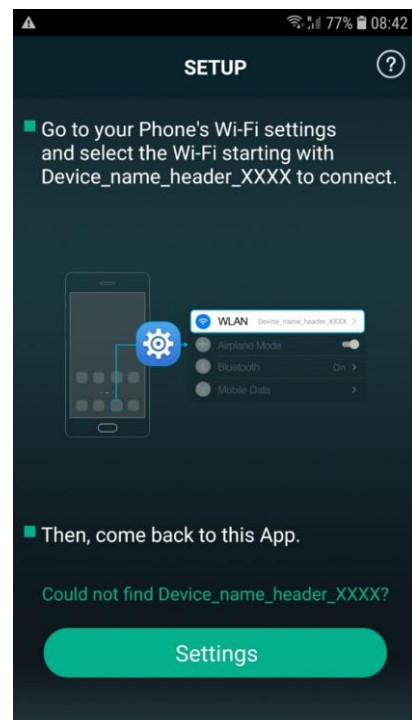
See **5.2.1. Wi-Fi Connection** on page 17 or **5.2.2. LAN Connection** on page 19 for more information.

5.2.1. Wi-Fi Connection

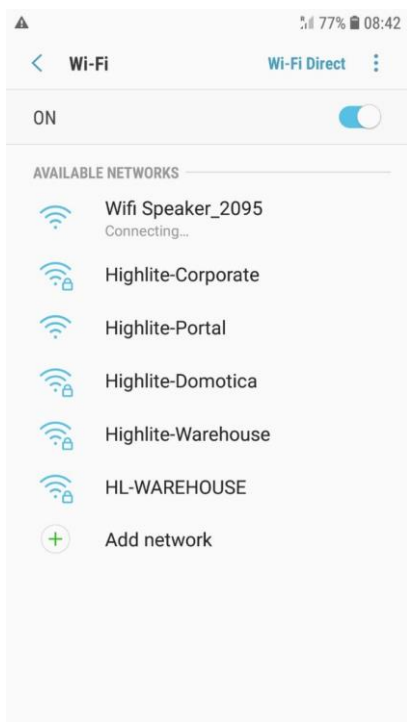
To pair the streaming device with the active speaker using the wireless module start the SmartSonix app and follow the steps below:



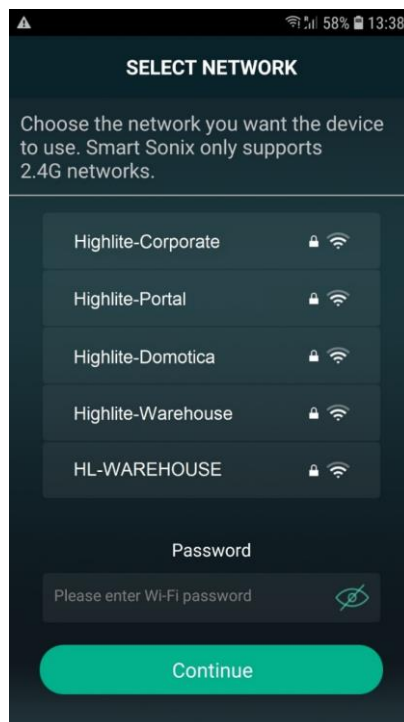
01) Select ADD DEVICE.



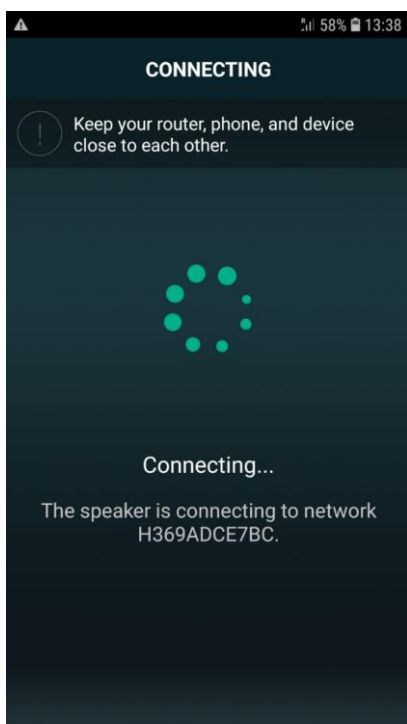
02) Select SETTINGS.



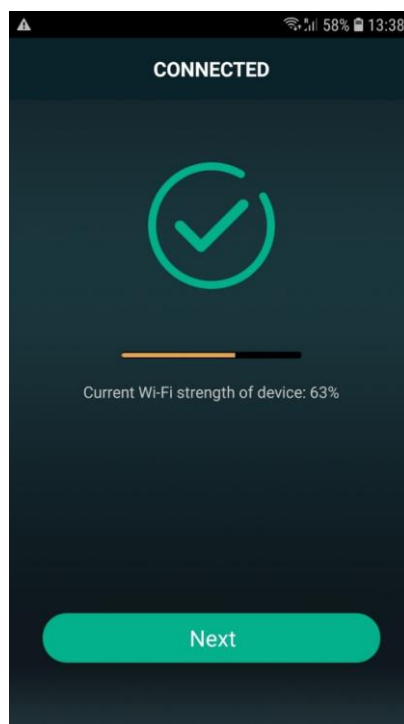
03) Select the speaker on the list of available networks.



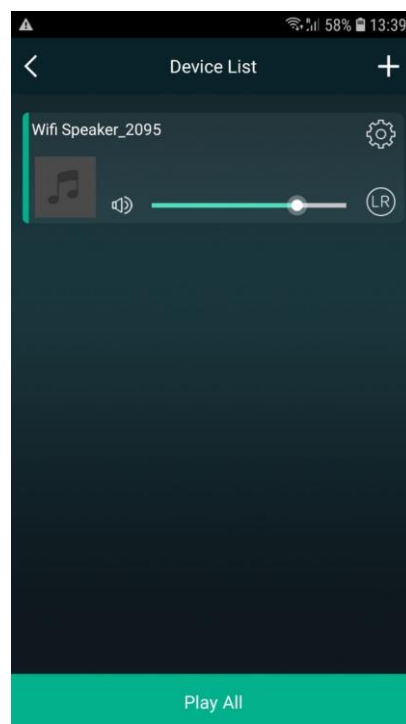
04) In the SmartSonix app, select your network and enter the password in the PASSWORD field.



05) Select CONTINUE to confirm the password. The speaker is connected to the network.

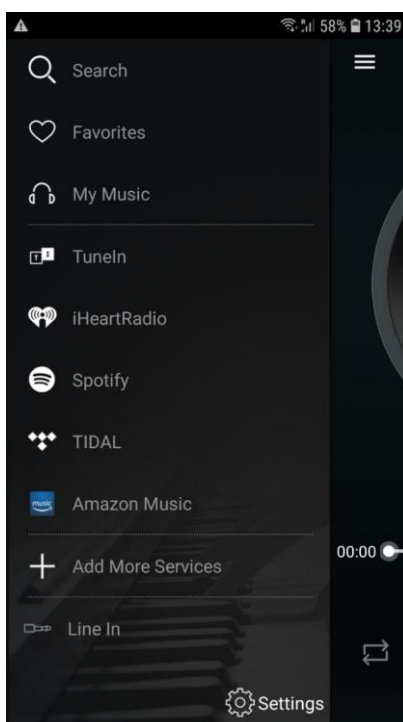


06) Select NEXT to confirm.



- 07) Select CUSTOM (to enter a custom name) or one of the many preset names.
- 08) Select NEXT to confirm. The SmartSonix app is configured.

You can now use the SmartSonix app to stream music via various streaming services.



5.2.2. LAN Connection

If the active speaker is connected to your router with a network cable, internet access is automatic. No further actions are necessary.

6. Operation

6.1. Safety Instructions for Operation


Attention

Connect all data cables before supplying power.
Disconnect power supply before connecting or disconnecting data cables.


Attention

This device must be used only for the purposes it is designed for.

This device is intended for use as a ceiling speaker. The device is suitable for fixed permanent installation in commercial and public spaces. It can be installed indoors.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

6.2. LED Indicator Statuses

The **status LED indicator (02)** shows the status of the speakers:

LED color	LED behavior	Status
Red	Flashing	Starting up
Red	Lights up	Speaker on, wireless module is ready
Green	Flashing	Connecting to network
Red, Green, Blue	Flashing	Updating/resetting the software

6.3. Operation Modes

The speaker needs to be set up and connected to a network to function correctly. To operate the speaker, you need to select an operation mode.

To select an operation mode:

- Press the **function button (04)** or,
- Press the **MODE** button on the remote control.

The **status LED indicator (02)** shows the status of the speaker:

LED color	LED behavior	Operation mode
Green	Lights up	Internet mode
Cyan	Lights up	RCA mode

6.3.1. Internet Mode

Use the SmartSonix app to stream music via various streaming services.

6.3.2. RCA Mode

To be able to play music in the RCA mode, make sure that line-level devices are connected to the active speaker. See **4.3.5. Connecting Line-level Devices** on page 13.

Operate the line-level devices to play music.

6.4. Remote Control

The speakers can be controlled with an IR remote control. The remote control is included in the delivery.



DANGER
Do not ingest battery, chemical burn hazard

The remote control contains a coin cell battery. If the coin cell battery is swallowed, it can cause severe internal burns in just 2 hours and can lead to death.

You can control several devices at the same time with the remote control.

Make sure that you point the remote control to the **infrared port (03)** of the speaker that you want to control. If you point the remote control to the **infrared port (03)** of the speaker outside of the range of the sensor ($> 60^\circ$, > 3 m), the speaker will not respond to the remote control.

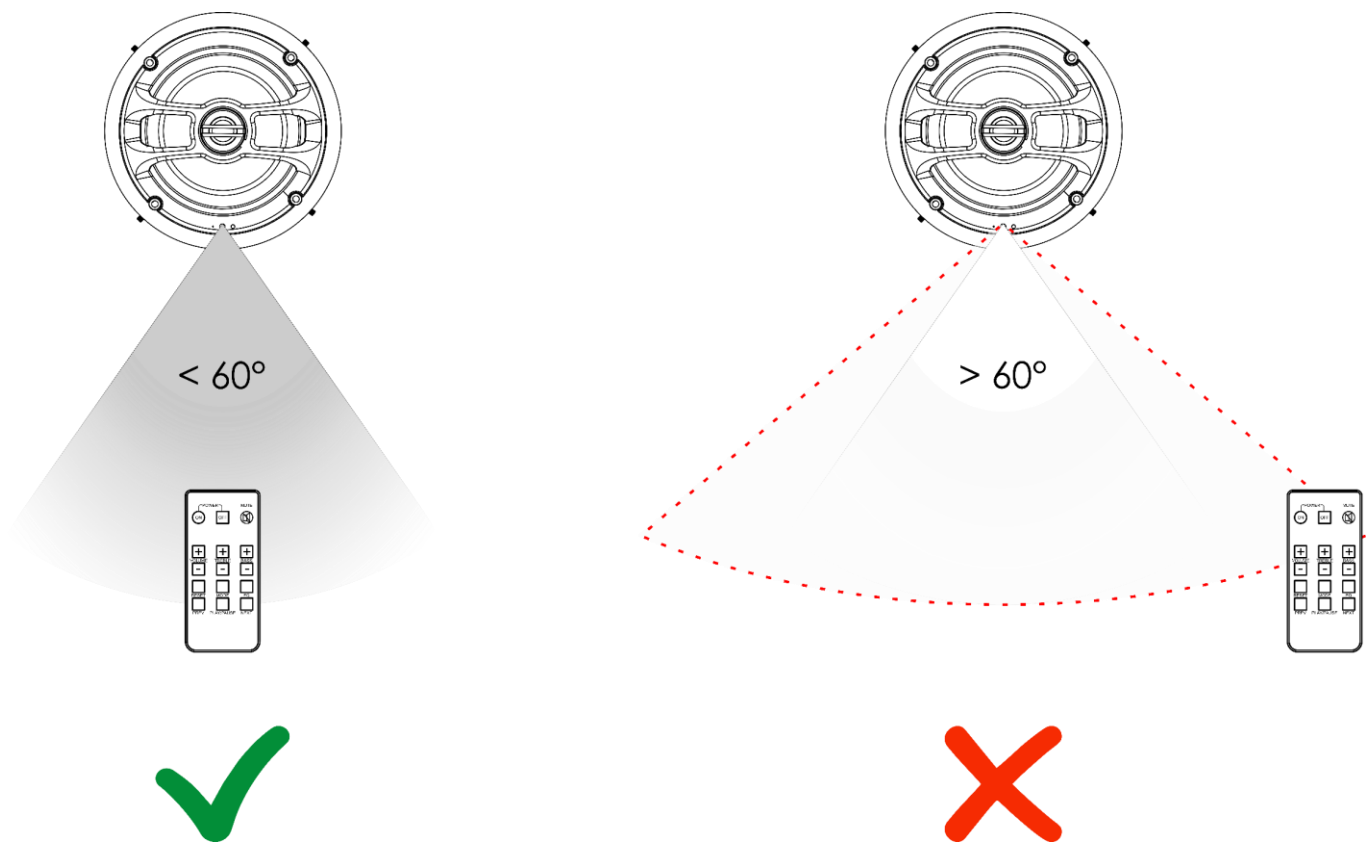


Fig. 15

6.4.1. Functions of the Remote Control Buttons

The remote control has the following functions:

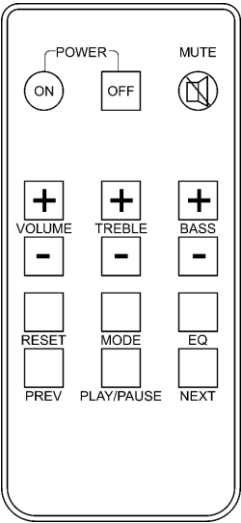












Fig. 16

Button	Description	Function	
	On	Turns the speaker on	
	Off	Turns the speaker off	
	Mute	Turns the sound on/off	
	Volume	Increases/decreases the volume	
	Treble	Increases/decreases the treble	
	Bass	Increases/decreases the bass	
	Reset	Restores the default factory settings	
	Mode	Selects an operation mode	
	Equalizer	Selects an equalizer preset	
	Previous	Selects a previous track	Only when streaming
	Playback	Starts/stops playback	Only when streaming
	Next	Selects a next track	Only when streaming

6.4.2. Selecting Equalizer Presets

You can select an equalizer preset.

Repeatedly press the **EQ** button to select an equalizer preset.

The order of the presets is as follows: Flat, Classical, Pop, Rock, Jazz, Enhanced vocals




6.5. Restoring Factory Settings

You can restore the default factory settings using the the **function button (04)** or the remote control.

To restore the default factory settings:

- Press and hold down the **function button (04)** for 10 seconds or,
- Press and hold down the **RESET** button on the remote control for 10 seconds.

The **status LED indicator (02)** shows:

LED color	LED behavior	Status
 Red,  Green,  Blue	Flashing	Updating/resetting the software

7. Troubleshooting

This troubleshooting guide contains solutions to problems which can be carried out by an ordinary person. The device does not contain user-serviceable parts. Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage. Refer servicing to instructed or skilled persons. Contact your Highlite International dealer in case the solution is not described in the table.

Problem	Probable cause(s)	Solution
The device does not function at all	No power to the device	<ul style="list-style-type: none"> • Make sure that power is switched on and cables are connected
No sound	The volume is set to minimum	<ul style="list-style-type: none"> • Increase the volume of the signal source
The device cannot connect to Wi-Fi	Wi-Fi network is offline	<ul style="list-style-type: none"> • Examine if the network works on another device • Examine if the static IP address is configured • Examine if your firewall does not block the output ports
	Wi-Fi signal is too weak	<ul style="list-style-type: none"> • Examine the distance between the device and the router • Move the device closer to the router
	Incorrect Wi-Fi password	<ul style="list-style-type: none"> • Enter the correct Wi-Fi password
Playback stutters (buffering)	Bandwidth is too low or busy	<ul style="list-style-type: none"> • Examine the internet connection
The device does not respond to the remote control	The remote control is outside of the range of the sensor of the infrared port	<ul style="list-style-type: none"> • Walk closer to the device or change the angle at which you point the remote control at the device. See 6.4. Remote Control on page 21
	The battery in the remote control is depleted	<ul style="list-style-type: none"> • Change the battery of the remote control
The device responds erratically	The factory settings of the device are changed	<ul style="list-style-type: none"> • Reset the parameters of the device to the default factory settings. See 6.5. Restoring Factory Settings on page 23

8. Maintenance

8.1. Safety Instructions for Maintenance



DANGER
Electric shock caused by dangerous voltage inside

Disconnect power supply before servicing.

8.2. Preventive Maintenance



Attention
Before use, examine the device visually for any defects.

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- There are no deformations on housings, fixations and installation points.
- The power cables are not damaged and do not show any material fatigue.

8.2.1. Basic Cleaning Instructions

To clean the speaker grill, follow the steps below:

- 01) Remove the speaker grill.
- 02) Clean the speaker grill with a soft, lint-free cloth.



Attention

- Do not immerse the device in liquid.
- Do not use alcohol or solvents.

8.3. Corrective Maintenance

The device does not contain user-serviceable parts. Do not open the device and do not modify the device.

Refer repairs and servicing to instructed or skilled persons. Contact your Highlite International dealer for more information.

9. Deinstallation, Transportation and Storage

- Disconnect power supply before deinstallation.
- Use the original packaging to transport the device, if possible.
- Clean the device before storing. Follow the cleaning instructions in chapter **8.2.1. Basic Cleaning Instructions** on page 24.
- Store the device in the original packaging, if possible.

10. Disposal



Correct disposal of this product

Waste Electrical and Electronic Equipment

This symbol on the product, its packaging or documents indicates that the product shall not be treated as household waste. Dispose of this product by handing it to the respective collection point for recycling of electrical and electronic equipment. This is to avoid environmental damage or personal injury due to uncontrolled waste disposal. For more detailed information about recycling of this product contact the local authorities or the authorized dealer.

11. Approval



Hereby, Highlite International declares that the device is in compliance with Directive 2014/53/EU (RED – Radio Equipment Directive).

The full text of the EU declaration of conformity is available at the respective product page on the website of Highlite International (www.highlite.com).

DAP

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