

CARBON

SERIES

USER GUIDE

H11709/H11710/H11711 - Version 1 / 12-2024

1 - Safety information

Important safety information



This unit is intended for indoor use only. Do not use it in a wet, or extremely cold/hot locations. Failure to follow these safety instructions could result in fire, electric shock, injury, or damage to this product or other property.



Any maintenance procedure must be performed by a CONTEST authorised technical service. Basic cleaning operations must thoroughly follow our safety instructions.



This product contains non-isolated electrical components. Do not undertake any maintenance operation when it is switched on as it may result in electric shock.

Symbols used



This symbol signals an important safety precaution.



The WARNING symbol signals a risk to the user's physical integrity. The product may also be damaged.



The CAUTION symbol signals a risk of product deterioration.

Instructions and recommendations

1 - Please read carefully :

We strongly recommend to read carefully and understand the safety instructions before attempting to operate this unit.

2 - Please keep this manual :

We strongly recommend to keep this manual with the unit for future reference.

3 - Operate carefully this product :

We strongly recommend to take into consideration every safety instruction.

4 - Follow the instructions:

Please carefully follow each safety instruction to avoid any physical harm or property damage.

5 - Avoid water and wet locations :

Do not use this product in rain, or near washbasins or other wet locations.

6 - Installation :

We strongly encourage you to only use a fixation system or support recommended by the manufacturer or supplied with this product. Carefully follow the installation instructions and use the adequate tools.

Always ensure this unit is firmly fixed to avoid vibration and slipping while operating as it may result in physical injury.

7 - Ceiling or wall installation :

Please contact your local dealer before attempting any ceiling or wall installation.

8 - Ventilation :

The cooling vents ensure a safe use of this product, and avoid any overheating risk. Do not obstruct or cover these vents as it may result in overheating and potential physical injury or product damage. This product should never be operated in a closed non-ventilated area such as a flight case or a rack, unless cooling vents are provided for the purpose.

9 - Heat exposure :

Sustained contact or proximity with warm surfaces may cause overheating and product damages. Please keep this product away from any heat source such as a heaters, amplifiers, hot plates, etc...



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



WARNING : This unit contains no user-serviceable parts. Do not open the housing or attempt any maintenance by yourself. In the unlikely even your unit may require service, please contact your nearest dealer.
In order to avoid any electrical malfunction, please do not use any multi-socket, power cord extension or connecting system without making sure they are perfectly isolated and present no defect.



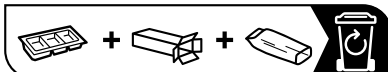
Sound levels

Our audio solutions deliver important sound pressure levels (SPL) that can be harmful to human health when exposed during long periods. Please do not stay in close proximity of operating speakers.

Recycling your device



- As HITMUSIC is really involved in the environmental cause, we only commercialise clean, ROHS compliant products.
- When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.



10 - Electric power supply :

This product can only be operated according to a very specific voltage. These information are specified on the label located at the rear of the product.

11 - Power cords protection:

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at lugs, convenience receptacles and the point where they exit from the fixture.

12 - Cleaning precautions :

Unplug the product before attempting any cleaning operation. This product should be cleaned only with accessories recommended by the manufacturer. Use a damp cloth to clean the surface. Do not wash this product.

13 - Long periods of non use :

Disconnect the unit's main power during long periods of non use.

14 - Liquids or objects penetration :

Do not let any object penetrate this product as it may result in electric shock or fire. Never spill any liquid on this product as it may infiltrate the electronic components and result in electric shock or fire.

15 - This product should be serviced when :

Please contact the qualified service personnel if :

- The power cord or the plug has been damaged.
- Objects have fallen or liquid has been spilled into the appliance.
- The appliance has been exposed to rain or water.
- The product does not appear to operate normally.
- The product has been damaged.

16 - Inspection/maintenance :

Please do not attempt any inspection or maintenance by yourself. Refer all servicing to qualified personnel.

17 - Operating environment :

Ambient temperature and humidity: +5 - +35°C, relative humidity must be less than 85% (when cooling vents are not obstructed).
Do not operate this product in a non-ventilated, very humid or warm place.

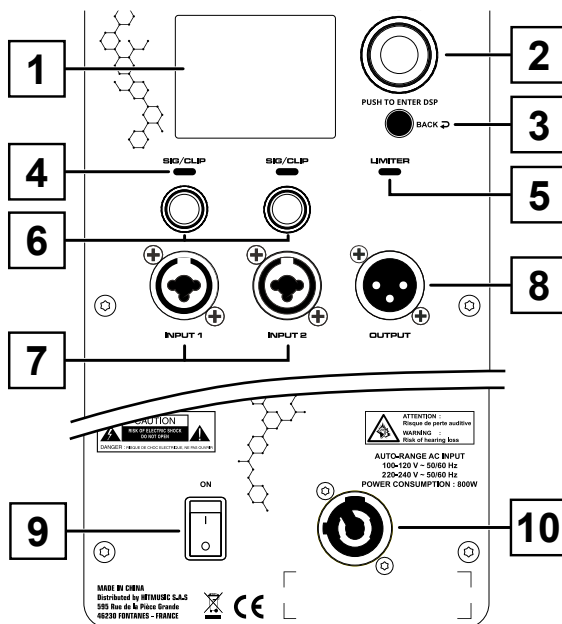
2 - Introduction

CARBON series loudspeakers and subwoofers are the ideal solution for your live performances. With power ratings of 1500W for the CARBON12A and CARBON15A, and 1000W for the CARBON18ASub, the CARBON series delivers a powerful, clear and warm sound, suitable for both voice and live or recorded music. All equipped with an adjustable DSP, the elements of this series enable ideal tuning of sound reproduction, whatever the configuration of your performance. Quick to install, lightweight and space-saving, they will quickly become the partners of your nomadic performances, without compromising on quality, power or possibilities.

3 - Technical specifications

	CARBON12A	CARBON15A	CARBON18ASub
Amplification	1000W RMS Class D bass 500W RMS Class D treble		1000 W RMS Class D
Total amplifier power	1500 W RMS / 3000 W Max		1000 W RMS / 2000 W Max
Frequency response	50 Hz - 20 KHz	45 Hz - 20 KHz	30 Hz - 110 Hz
Power supply	220-240V AC 50 Hz switching SMPS		
Dispersion H x V	90° x 70° (10 KHz)		
Sound pressure level SPL	130 dB max.	131 dB max.	135 dB max.
Woofer	12 inches 2.5 inches coil Magnet 49.8 Oz 2 Ohms - 500 W AES	15 inches 2.5 inches coil Magnet 60.1 Oz 2 Ohms - 500W AES	18 pouces Bobine de 4 pouces Magnet 95.6 Oz 8 Ohms - 800 W AES
Tweeter	Moteur 1.35 pouce High Polymères 4 Ohms 50W AES		
Inputs	2 MIC/LINE inputs on XLR/JACK COMBO with MIC/LINE auto switch		2 MIC/LINE inputs on XLR/JACK COMBO
Outputs	1 line output on XLR + Bluetooth® TWS		2 XLR line outputs
Settings	Inputs 1 and 2 volume / MASTER volume DSP with multiple settings		Volume MASTER DSP avec réglages multiples
Protection	Short-circuit, thermal and limiter protection		
Construction and hangers	Asymmetrical shape with cut edges for return position Integral metal grille LED Power/Clip on front panel 1 side handle 1 top handle 1 handle below 3 M10 inserts 36 mm foot plate 8 rubber pads: 4 on bottom + 4 on sides		Reinforced box in 15mm plywood Anti-scratch textured Polyurea paint Integral metal grille Front LED Power/Clip 2 side handles 36 mm tube base 4 rubber pads underneath
Dimensions (l x p x h)	360 x 353 x 628 mm	430 x 403 x 713 mm	605 x 666 x 706 mm
Net weight	17 Kg	22 Kg	55 Kg

4 - Amplifier module for CARBON12A and CARBON15A



1 Integrated DSP display

Allows you to view the integrated DSP settings. The various DSP settings are explained in paragraph 6.

2 DSP adjustment knob

Press this knob to access the available settings or to enter the various submenus. Then turn this knob to scroll through the values in each sub-menu. Press again to confirm your settings.

3 BACK button

This button is used to go backwards through the DSP submenus.

4 SIG/CLIP LEDs

These LED's indicate the presence of a signal (green) or too high level (red) on the channel concerned.

5 LIMITE LED

This LED indicates that the limiter is activated, which means that the output level is too high. In this case, adjust the levels so that the LED goes out, to avoid amplifier saturation.

6 Input 1 and 2 level settings

Make sure input levels are not too high to avoid distorted sound..

7 Line/microphone inputs on COMBO plug

The COMBO plug allows you to connect either a male XLR plug, or a male mono or stereo jack plug. This input automatically adapts to the impedance of the connected source (line or microphone). Details of the different types of wiring are given later in this manual.

8 XLR OUTPUT plug

This plug can be used to recover the sum of the signals present at the input for re-injection into another amplified loudspeaker, mixer or amplifier/loudspeaker system.

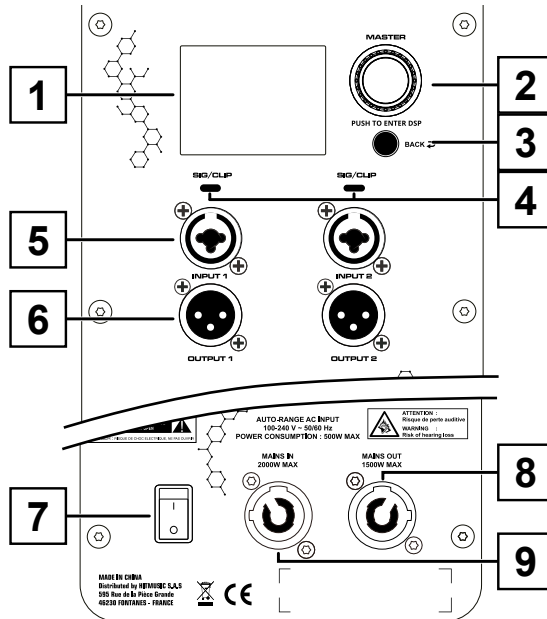
9 Power switch

Switches the integrated amplifier on and off.

10 Power supply input

Connects the loudspeaker to the mains. Use the POWERCON cord supplied, and check that the voltage at your venue matches the value indicated by the POWERCON connector before switching on the integrated amplifier.

5 - CARBON18ASub amplifier module



1 Integrated DSP display

Display the integrated DSP settings.
The various DSP settings are explained in paragraph 7.

2 DSP adjustment knob

Press this knob to access the available settings or to enter the various submenus.
Then turn this knob to scroll through the values in each sub-menu.
Press again to confirm your settings.

3 BACK button

This button is used to go backwards through the DSP submenus.

4 SIG/CLIP LED's

These LED's indicate the presence of a signal (green) or too high a level (red) on the channel concerned.

5 Line inputs on COMBO plug

The COMBO plug can be used to connect either a male XLR plug or a male mono or stereo jack plug.
Details of the different types of wiring are given later in this manual.

6 XLR OUTPUT plugs

These plugs can be used to recover signals present on the inputs for re-injection on other amplified loudspeakers, on a mixer or on an amplifier/loudspeaker system.

7 Power button

Switches the integrated amplifier on and off.

8 Power supply output

Allows input power to be re-injected into another system.
Caution: The maximum power consumed by the connected system must not exceed 1500 W.


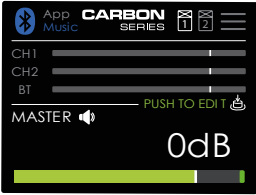
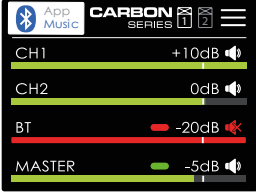
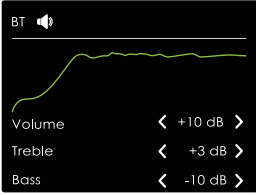
9 Power supply input

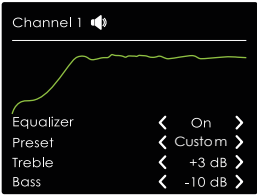
Connects the cabinet to the mains. Use the POWERCON cable supplied, and check that the voltage at your venue corresponds to the value indicated on the POWERCON connector before switching on the integrated amplifier.
Caution: The maximum power supported by this plug must not exceed 2000 W.

Setting CARBON12A/15A speaker levels

- 1 - Connect the speaker to the mains via the POWERCON / 2pole + earth plug. Leave the power switch (9) in the OFF position.
- 2 - Set all LEVEL potentiometers to minimum.
- 3 - Plug in your microphone or line-level source, or both.
- 4 - Switch on your line-level source.
- 5 - Switch on your CARBON speaker.
- 6 - If you are using a microphone, be careful not to stand too close to the speaker, as this could result in feedback. If you are not using both inputs, we recommend that you leave the level potentiometer of the unused input on the minimum position, to avoid introducing noise into the signal circuit.

6 - Speaker DSP menu

MENUS	MENU OPTIONS
	<p>Welcome screen</p> <p>Displayed when the speaker is switched on.</p>
	<p>Main menu</p> <p>This menu appears after the speaker has been initialized, and is used to set the speaker's amplification level.</p> <p>It is not necessary to press the button to make this setting.</p> <p>The value ranges from MUTE (no amplification) to +10dB.</p>
	<p>Channel selection page</p> <p>Press the MASTER button to access this page.</p> <p>Channel 1 and 2 levels are adjusted using the input 1 and input 2 rotary potentiometers.</p> <p>To set the Bluetooth channel level, select the BT line and press the Master button.</p>
	<p>Bluetooth Menu</p> <p>This menu lets you adjust the level, treble and bass of the Bluetooth channel.</p> <p>You can also click on the speaker logo to deactivate the channel. The logo will then turn red.</p> <p>Use the BACK button to return to the previous screen.</p>



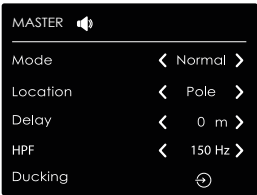
Channel menu

This menu allows you to adjust the equalizer, treble and bass of channels 1 and 2.

The Preset parameter lets you choose from 3 pre-defined equalization settings.

You can also click on the speaker logo to deactivate the channel. The logo then turns red.

Use the BACK button to return to the previous screen.



Master menu

This menu lets you select the type of operation (Mode), adjust the sound according to speaker position (Location), delay (Delay), high-pass filter cutoff frequency (HPF) and access the Ducking menu.

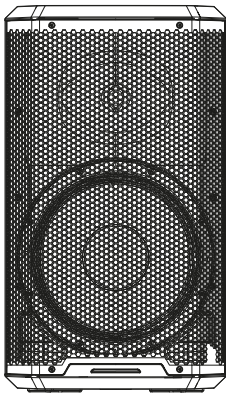
- Mode: Normal / Live / Club / Speech

- Delay: 0 to 100 m

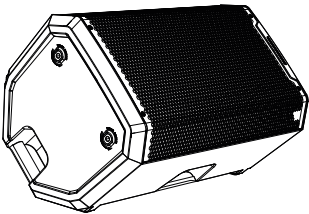
- HPF (high-pass filter) : From 20 to 150 Hz

You can also click on the speaker logo to deactivate the Master. The logo then turns red. Use the BACK button to return to the previous screen.

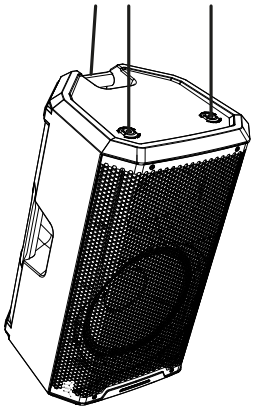
Location menu positions



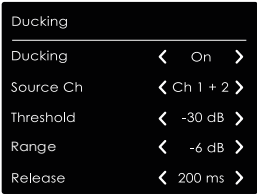
Pole



Monitor

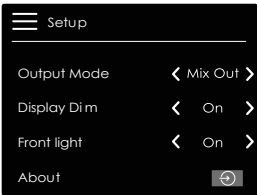


Bracket



Ducking menu

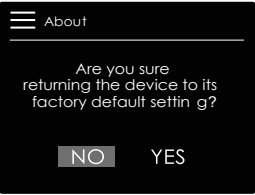
This menu lets you activate and adjust the attenuator's behavior. You can choose which channel the ducker applies to (Ch 1, Ch 2 or Ch 1 and 2). The channel(s) on which ducking is activated takes priority over the others. You can also set the trigger threshold (Threshold), the attenuation rate (Range) and the release time (Release).



Setup menu

This menu allows you to select the signal to be sent to the OUTPUT (Output mode), the automatic switching off of the display (Display Dim), and the switching on and off of the front LED (Front Light).
- **Output mode** = Mix Out: input signals are sent to the output, and the level depends on the MASTER level setting (post fader).
- **Output mode** = Link Out: input signals are sent to the output and the level does not depend on the MASTER level setting (Pre fader).

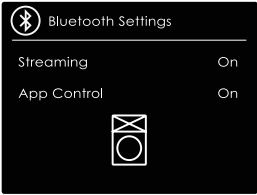
From this menu you can access the About menu, which gives information on the version of the internal software, and reset the settings to factory defaults.



About menu

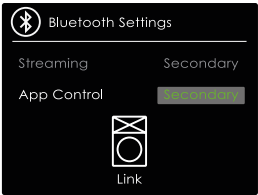
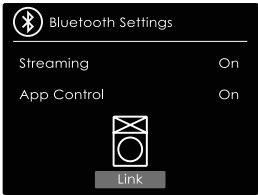
This menu displays the internal software version. It can also be used to reset factory settings.

Bluetooth settings



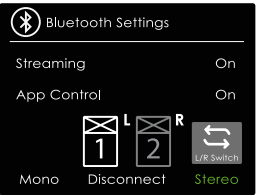
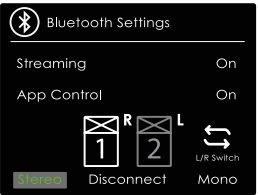
Bluetooth control activation

Set Streaming mode to ON for simple Bluetooth operation.
If you are using the dedicated application, activate the App Control function.



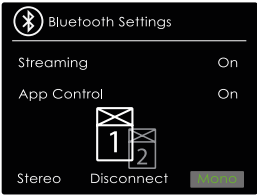
TWS function

Switch on both speakers and click on Link.
The second speaker automatically switches to Secondary mode.



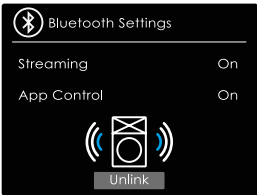
Stereo inversion

Click on the L/R Switch button to invert the stereo sides.



Use in Mono mode

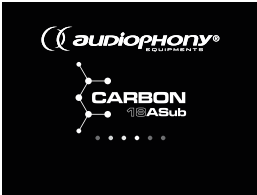
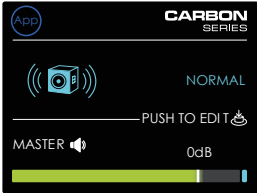
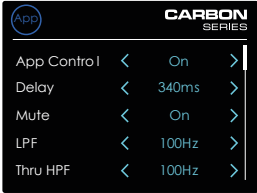
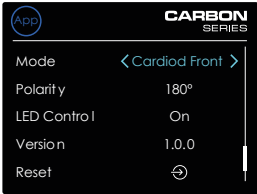
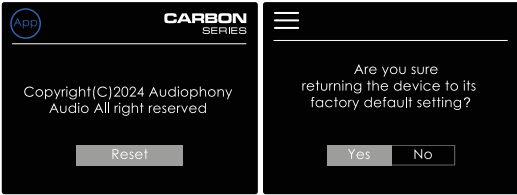
In mono mode, the left and right stereo channels are sent simultaneously to both speakers.



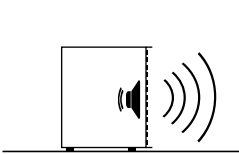
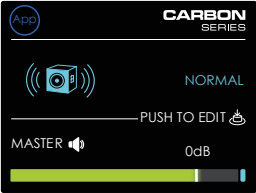
Switching off TWS mode

Click on the Unlink button to cancel TWS mode.

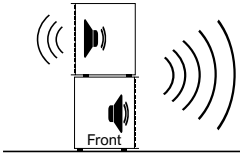
7 - Subwoofer DSP menu

MENUS	MENU OPTIONS
	<p>Welcome screen</p> <p>Displayed when the subwoofer is switched on.</p>
	<p>Main menu</p> <p>This menu appears after the cabinet has been initialized, and is used to set the cabinet's amplification level. It is not necessary to press the button to make this setting. The value ranges from MUTE (no amplification) to +10 dB. Press the MASTER button to access the settings.</p>
	<p>Settings (first level)</p> <ul style="list-style-type: none">- App Control: Activates the adjustment function via the dedicated application: CARBON SERIES.- Delay: Adds a delay time to the subwoofer to align it with time. The delay value is expressed in ms (from 0 to 340 ms). By default, no delay time is applied.- Mute: Mutes the output.- LPF: Sets the frequency of the low-pass filter (from 40 to 100 Hz).- Thru HPF: Sets the frequency of the high-pass filter (from Off to 100 Hz).
	<p>Settings (second level)</p> <ul style="list-style-type: none">- Mode: Normal, Cardiod Rear, Cardiod Front.- Normal: Choose this option when using the subwoofer in ungrouped mode.- Cardiod Front / Rear: Choose this option for a cardioid effect when using the subwoofer in grouped mode.- LED Control: Switches the front LED on and off.- Version: Displays internal software version.- Reset: Resets settings to factory defaults.
	<p>Reset menu</p> <p>Resets all settings to factory defaults.</p>

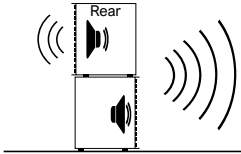
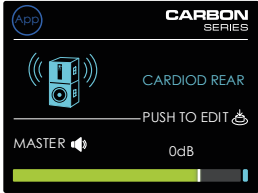
Mode menu positions



Normal



Cardiod Front



Cardiod Rear

Note :
No matter which mode you select, the settings are identical.

Application icon
The application can be downloaded from the website <https://audiophony.com>.

It allows you to connect the speaker or subwoofer to the mobile application.
This application allows you to remotely control all the DSP functions.



iOS version



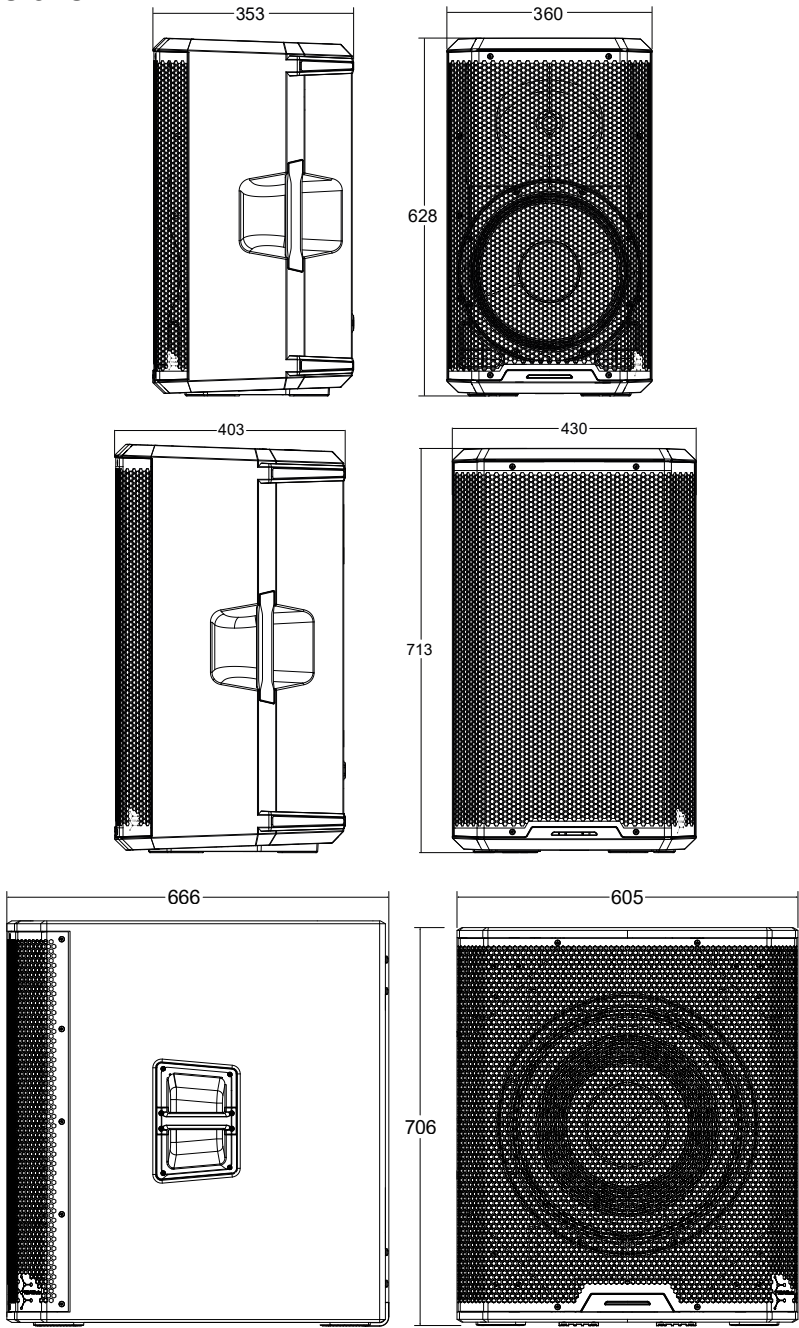
CARBON control



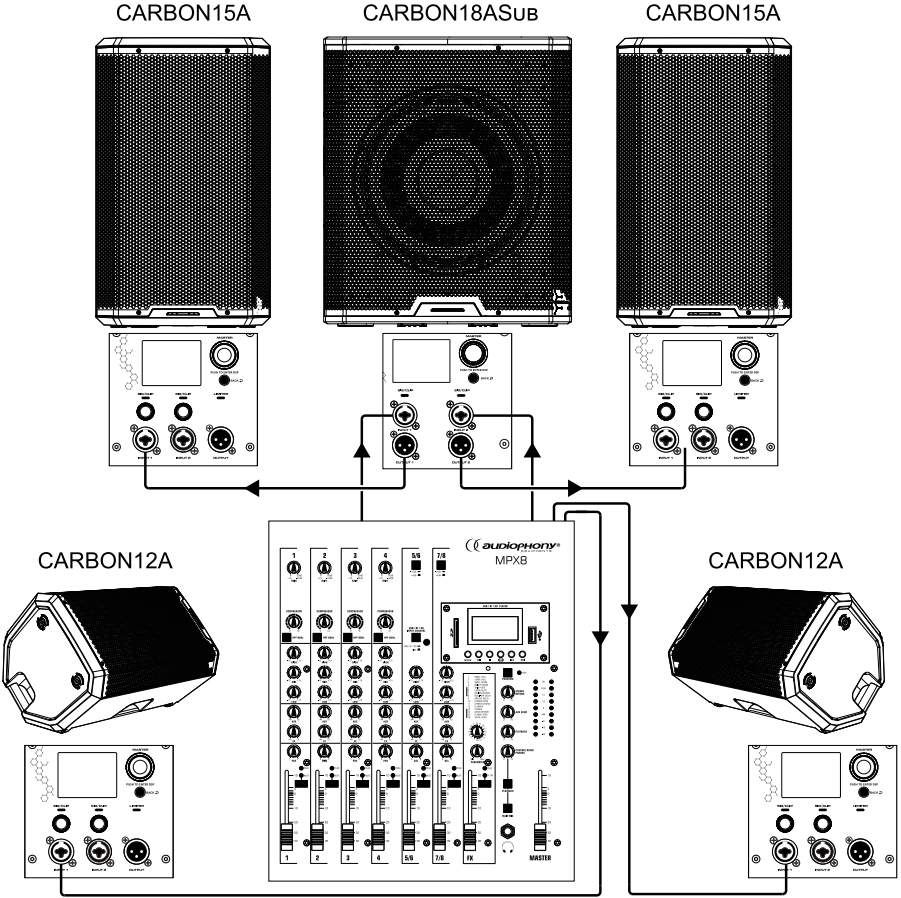
Android version



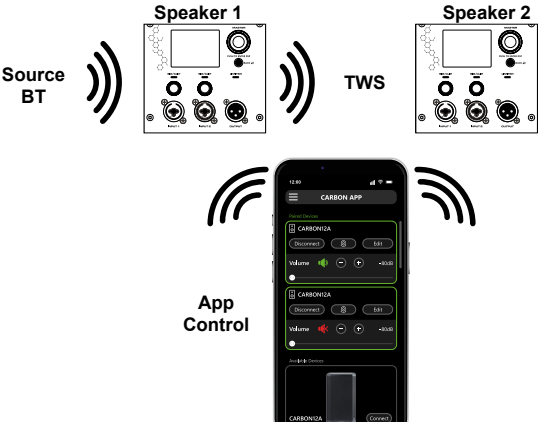
8 - Dimensions



9 - Schematic diagram



Use in TWS mode with the CARBON SERIES application

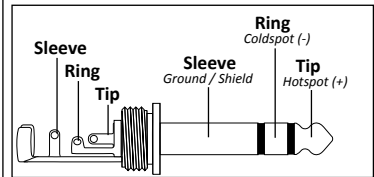
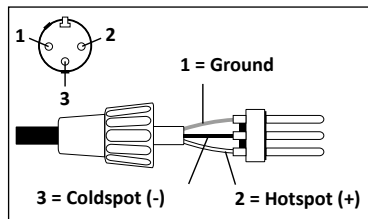


10 - Connections used

10.1 - Balanced

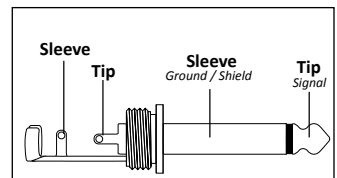
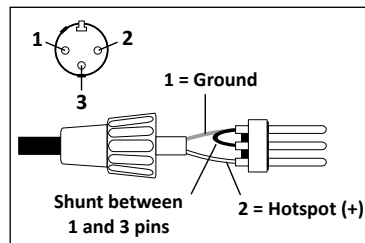
COMBO connector inputs are balanced. This type of connection allows signals to be transported over long distances without altering signal quality, so it's preferable to use balanced signals.

The two diagrams opposite show the principles of balanced wiring with XLR or 6.35 jack plugs.



10.2 - Unbalanced

If you don't have a balanced signal source, make sure cable lengths don't exceed 1.5m. The two diagrams opposite show the principles of unbalanced wiring with XLR or 6.35 jack plugs.



Because AUDIOPHONY® takes the utmost care in its products to make sure you only get the best possible quality, our products are subjects to modifications without prior notice. That is why technical specifications and the products physical configuration might differ from the illustrations.

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