PSI AUDIO
SWISS MADE

AVAA

User Manual

AVAA C214

3.2025

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1. Introduction

Thank you for choosing the AVAA C214, our advanced digital active bass trap. Congratulations on making an excellent decision to enhance your acoustic environment.

The AVAA C214 offers flexible operation with two distinct modes: **Standalone Mode** for independent use and **Remote Mode** for seamless integration with smartphone app.

- **Standalone Mode** (not connected to a wireless network): when you unpack your AVAA C214 and turn it on for the first time, it will work like the AVAA C20, you can manually turn it on and off. The LED is green when it is working.

- **Remote Mode** (connected to a wireless network): thanks to digital technology, you can now control your AVAA C214 using an app. When you are in this mode, the LED is blue.

In this user manual, we will always refer to “**Standalone Mode**” and “**Remote Mode**”.

Carefully following the instructions in this manual will ensure that your system will give you many years of reliable and trouble free operations.

For the latest information, help or advice, please contact your local PSI Audio representative or PSI Audio directly.

Relec SA
Rue des Petits Champs 11 a+b
CH-1400 YVERDON (Switzerland)
Tel : +41 (0)24 426 04 20
info@psiaudio.swiss
www.psiaudio.swiss

2. Safety Instructions

This symbol alerts the user to the presence of electrical power within the product that may be of sufficient magnitude to constitute a risk of electric shock.

This symbol alerts the user to important operating and maintenance (servicing) instructions or warnings.

2.1 Warnings

1. **Read Instructions Carefully**
   Before operating the AVAA C214, carefully read and follow all provided instructions to ensure safe and proper use.

2. **Fall Hazard**
   Positioning the AVAA C214 above floor level can create a fall hazard. Always ensure the device is securely placed or mounted in a stable position to prevent it from falling. Take extra precautions to ensure children cannot accidentally knock it over.

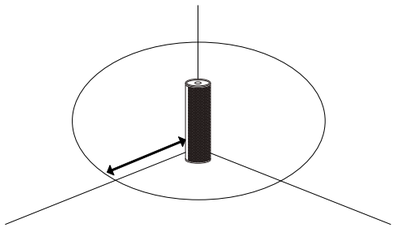
3. **Do Not Open the Device**
   Opening the AVAA C214 can result in electric shock. Never attempt to disassemble or modify the unit.

4. **Avoid Exposure to Liquids**
   Do not expose the AVAA C214 to liquids. For cleaning, use only a dry cloth. To prevent spills, avoid placing containers with liquids on or near the device. Additionally, do not use the AVAA C214 near water, as this may create an electric shock hazard.

5. **Use Proper Power Cables**
   Only use three-wire mains cables and connectors with proper grounding, in accordance with your country's electrical standards.

6. **Avoid Confined Spaces**
   The AVAA C214 is designed to be placed on the rubber foot located on the bottom of the unit. Ensure it is placed on a flat, solid, and stable surface. Do not operate the device in confined or cramped environments.

7. **Room Size and Placement**
   The AVAA C214 is designed for use in rooms with a minimum size of 10 m². For optimal performance, position the device in a corner of the room. Avoid placing large reflective objects within 1 meter of the front of the AVAA C214, as this may cause instability.



8. **Keep Away from Heat Sources**
   Do not operate or install the AVAA C214 near any heat sources, as this may damage the device or pose a safety risk.

9. **Use Approved Accessories Only**
   Only operate the AVAA C214 with accessories specified or approved by PSI Audio. Using unauthorized accessories may compromise performance or safety.

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2.2 Service

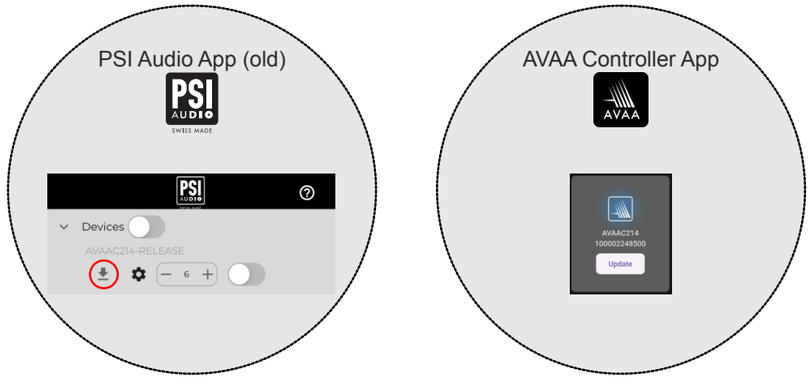
The AVAA C214 contains no user-serviceable parts. Service must be performed by qualified personnel. The unit must not be opened by the user – risk of a severe electric shock.

Servicing is required when:

- the AVAA C214 has been damaged in some way, such as when the power-supply cord or plug is damaged.
- the AVAA C214 has suffered from exposure to rain or moisture.
- liquid has been spilled into the AVAA C214.
- objects have been dropped into the AVAA C214.
- the AVAA C214 does not work correctly.

Software update:

- If software or firmware update is required, you will see it in your Smartphone app:



Spare part supply:

- for ordering, please contact your authorized reseller, mentioning your AVAA C214 model and serial number.

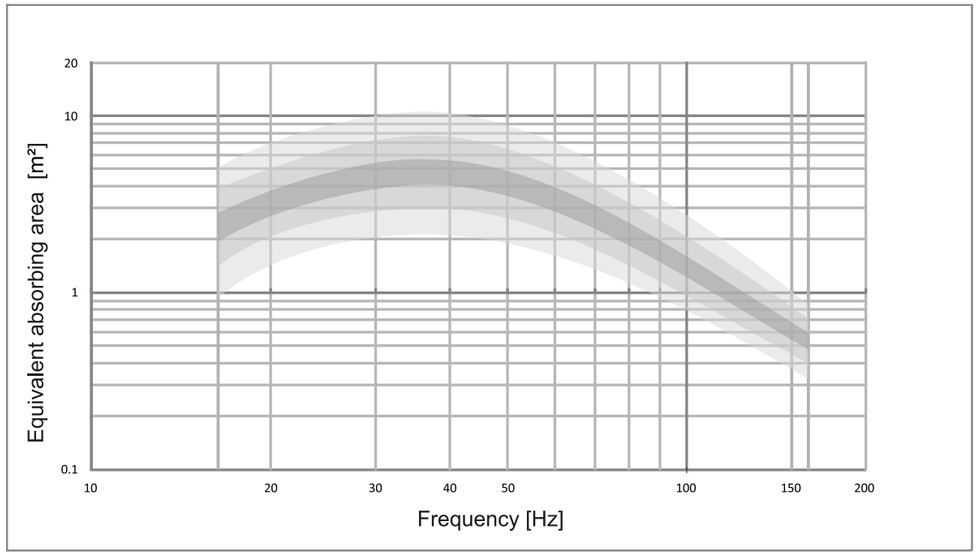
3. Product Overview

3.1 Description

The **AVAA C214** is designed to absorb standing waves in the **15–160 Hz range**. Above this frequency, passive acoustic treatments are more effective. For optimal performance, the AVAA C214 should be installed in a room where **medium and high frequencies have already been treated** with passive solutions.

For frequencies below **160 Hz**, each AVAA C214 functions as if it were a **large opening** in the wall, significantly larger than its physical size. The exact equivalent absorption area varies depending on frequency and room characteristics but typically ranges between **15 and 45 times** the AVAA's actual surface area.

The graph below illustrates the **typical equivalent absorption** area of an active AVAA C214 across its designed frequency range. As a reference, the AVAA C214 has a surface area of **0.13 m²**, meaning an equivalent absorption area of **4 m²** would be **30 times its size**.



Under **normal operating conditions**, the AVAA C214 does **not** emit any audible sound or anti-sound. It simply **absorbs low frequencies efficiently**, relative to its compact size, without affecting the **direct sound** from speakers or other sound sources.

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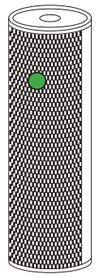
3.2 Before you start

Special care has been taken in the packaging of your PSI Audio product. Before you start to install it, please check that the following parts are included:

- AVAA C214.
- Warranty certificate of calibration.
- Quickstart Guide (also included in this User Manual).

3.3 Front Panel Description

Standalone mode - GREEN LED
(without wireless network)



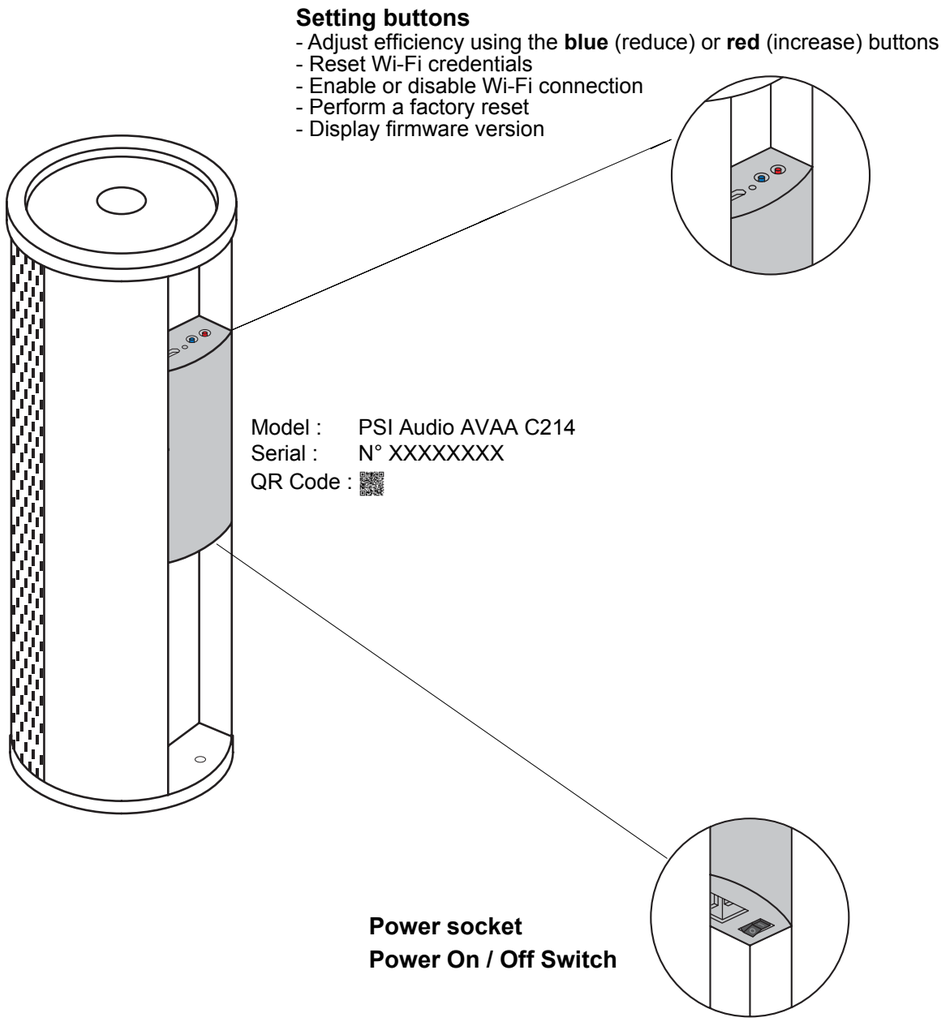
- Operating
- Overload
- Warning alert
- Critical issue (needs to be restarted)

Remote mode - BLUE LED
(Controlled by an app)

- Waiting for connection (breathing)
- Connecting to Wi-Fi
- Connected to Wi-Fi
- Overload
- Warning alert
- Critical issue (needs to be restarted)

For the detailed procedure on how to connect your AVAA C214 to the Wi-Fi network, please refer to the Chapter 7. Remote Mode.

3.4 Rear Panel Description



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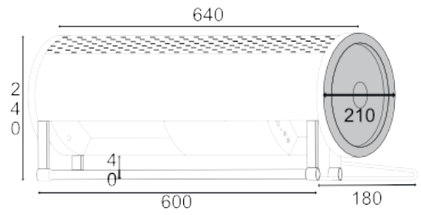
4. Technical Specifications

4.1 Dimensions and weight

- **Dimensions (HxWxD)**: 640 x 210 x 210 mm
- **Weight**: 15 kg



All dimensions are in mm

4.2 Performance

- **Operating Frequency Range**: 15 Hz to 160 Hz
- **Absorption Efficiency**: Equivalent to a passive absorber 45 times its size
- **Maximum Sound Level for Full Operation**: 115 dB SPL (Sound Pressure Level)
- **Absorption Principle**: Active Bass Absorption using internal microphones, actuators, and electronics

4.3 Power Requirements

- **Voltage:** 100-240V AC, 50/60 Hz (universal power input)
- **Power Consumption:**

  1) Standby: 1W
  2) Regular use: 20 - 40W (typical operating condition)
  3) Maximum: 48W

5. Quick Start

The setup process typically involves testing the AVAA C214 in a few different locations to determine the most effective placement. Using a remote control can make this process significantly easier. However, if you need to get started quickly, refer to the **Quick Start Guide** on the next page. The rest of this manual will help you fine-tune the AVAA C214 for your listening environment.

Setup Steps:

- **Connect the power cable**, ensuring you follow the safety instructions outlined in the manual.
- The AVAA C214 is a **broadband absorber** designed to be effective between **15 and 160 Hz** in environments that already absorb higher frequencies, such as **living rooms and studios**. In these settings, no adjustments are needed.
- **Important**: Under certain critical conditions, the AVAA C214 may become unstable and emit noise. PSI Audio is not responsible for any damage resulting from use under unstable conditions.
- The AVAA C214 allows **sensitivity (gain) adjustment** to optimize performance based on the environment. The sensitivity can be increased until the first signs of instability appear.

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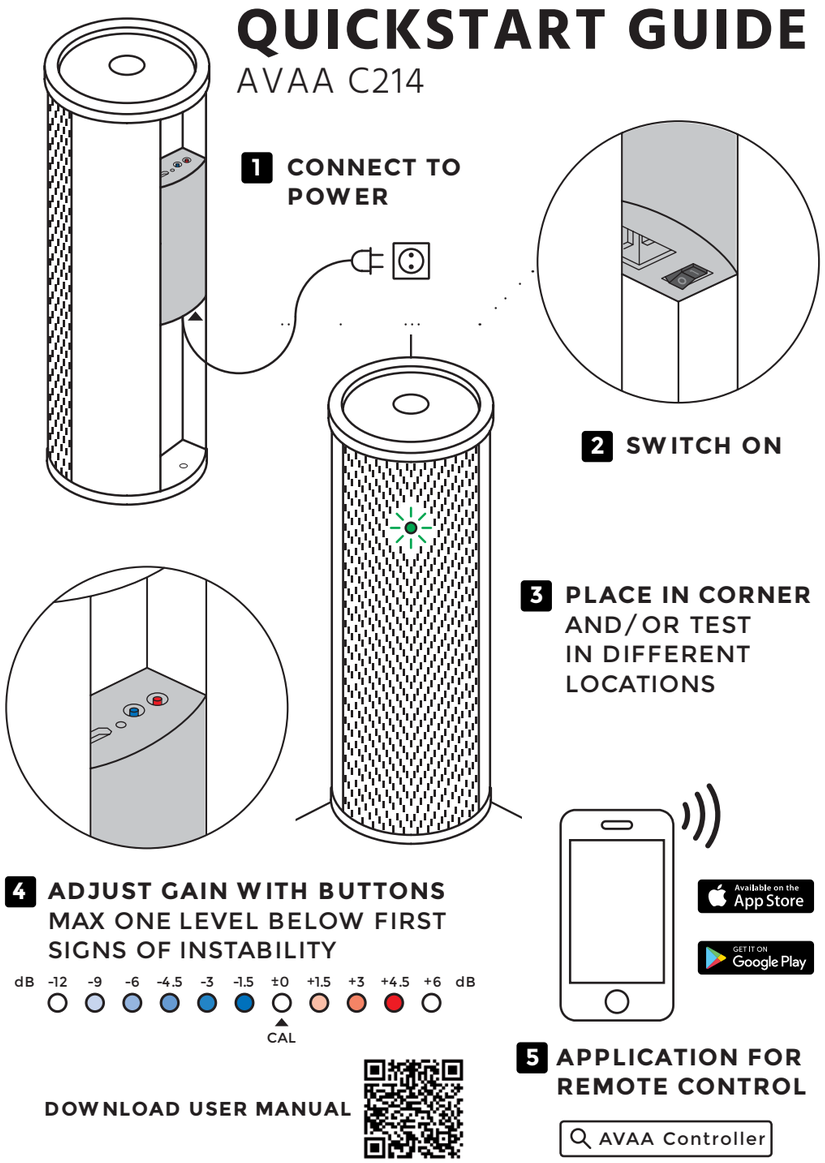

6. Operation

6.1 Standalone Mode - Power ON LED (Green)

The green LED on the front panel indicates that the AVAA C214 is powered on and ready for operation. If the LED does not light up, ensure the device is properly connected to an AC power source.

In Standalone Mode, the AVAA C214 operates normally but cannot be controlled remotely via the app. However, you can still adjust its efficiency manually (see Section 6.5 for details).

6.2 Remote Mode - Power ON LED (Blue)

To activate Remote Mode, follow the steps outlined in Section 7.2 - *Enabling/Disabling wireless network.*
When the AVAA C214 is in Remote Mode, the front LED will turn blue instead of green, indicating that the device is ready for remote control via the app.

6.3 Limiter

The AVAA C214 features an internal limiter that monitors the acoustic pressure it is exposed to. If the device reaches its maximum absorption capacity, the LED will shine brighter for approximately 2 seconds. This occurs when the AVAA C214 is exposed to sound levels exceeding **115 dB** at its location and is operating at full capacity.
This brighter LED serves as an indication that the AVAA C214 cannot absorb additional low-frequency energy. While this is not a malfunction, it is recommended to reduce the sound level to ensure optimal performance.
If the LED remains continuously bright, it indicates that the AVAA C214 is working at its limit. In such cases, adding additional AVAAs in different locations is generally more effective than placing multiple units in the same location.

6.4 Standby

A red LED on the front panel indicates that the AVAA C214 is in **Standby Mode**. This mode can only be activated via the remote control application, and the device must be connected to a wireless network.
The LED may also turn red if the device overheats. Common causes of overheating include insufficient ventilation or placement in a hot environment (e.g., near radiators, in direct sunlight, etc.). Ensure adequate air circulation around the AVAA C214, both in front and behind the unit, to prevent overheating.

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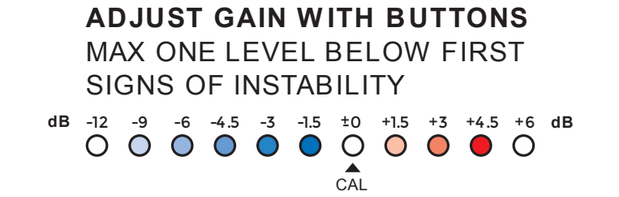
6.5 Adjusting the gain of your AVAA

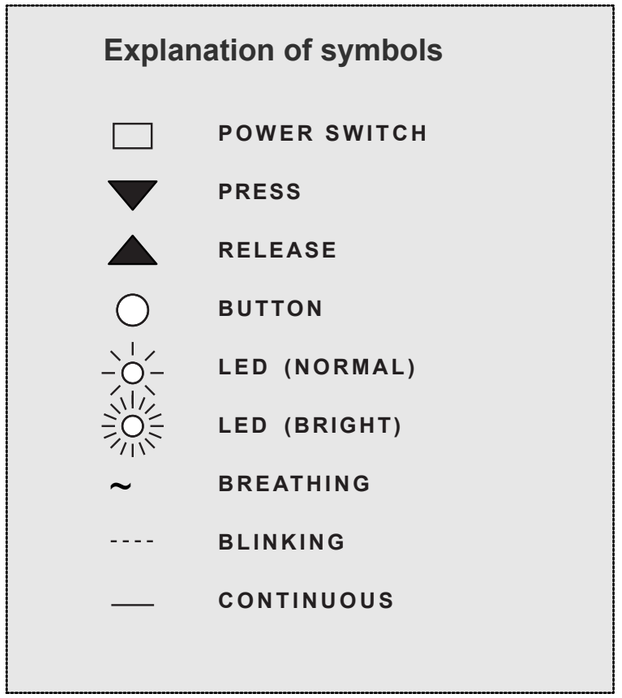
In highly reverberant environments, it may be beneficial to reduce the gain of the AVAA C214. Conversely, in well-treated rooms, increasing the gain can enhance absorption performance. Use the rear panel buttons to adjust the gain:

- Press the **blue button** to decrease the gain.
- Press the **red button** to increase the gain.

The gain adjustment range is **-12 dB to +6 dB**.

At the minimum, maximum, and neutral (0 dB) gain settings, a white LED will illuminate to indicate these specific values, as illustrated below.





7. Remote Mode (Wireless Network)

7.1 Remote Control

PSI Audio offers you a new experience by using a smartphone as a remote control. To take control of your AVAA C214, please download the application on the stores (search for “AVAA Controller”).

The Smartphone app allows:
- **Remote control** (ON/OFF) of each AVAA C214 individually or in a group.
- **Remote control the gain** (efficiency) of each AVAA C214 individually.
- Link to **help** on the PSI Audio website.
- **Upgrade** the AVAA C214 **firmware**.

GET IT ON Google Play
Available on the App Store
AVAA Controller

Once downloaded, please follow the steps to pair your AVAA C214 to your wireless network.

Before starting the pairing operation, please check that your AVAA(s) wireless network is enabled. Please refer to the “Enable/disable wireless network” (section 7.2).

Use only 2.4 GHz wifi network!
A 2.4 GHz Wi-Fi network operates in the 2.4 GHz frequency band, which provides several advantages over 5 GHz Wi-Fi networks:

- **Wider Range**: The 2.4 GHz frequency band has a longer wavelength, which means it can penetrate walls and other obstacles more effectively, providing a wider coverage area for the wireless network signal.

- **Better Compatibility**: Older devices and some smart home devices operate in the 2.4 GHz frequency band, so a 2.4 GHz Wi-Fi network provides better compatibility with these devices.

- **Lower Interference**: The 2.4 GHz frequency band is less congested than the 5 GHz frequency band, so there's less interference from other devices that use the same band, such as cordless phones, baby monitors, and microwave ovens.

In "standard" rooms, the AVAAs can be operated at full sensitivity for optimal performance.

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7.2 Enabling/Disabling Wireless Network

Your AVAA C214 can connect to a wireless network, but by default, wireless access is disabled.
To use remote control features or update to the latest firmware, you must connect the AVAA C214 to a wireless network. (For remote control, an internet connection is not required.)

Enabling Wireless Network

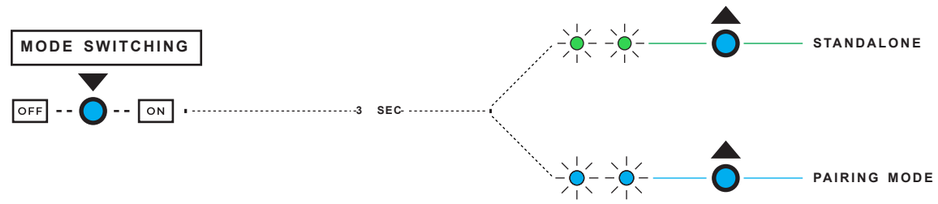
Follow these steps to enable the wireless network:

1. Turn off your AVAA C214.
2. Press and hold the rear BLUE button.
3. Turn on on your AVAA C214.
4. Wait until the blue LED blinks (~3 sec) - this confirms that wireless is enabled.
5. The front led should now be breathing blue.
6. You are now ready to connect your AVAA(s) with the smartphone app.

Disabling Wireless Network

Follow these steps to disable the wireless network:

1. Turn off your AVAA C214.
2. Press and hold the rear BLUE button.
3. Turn on your AVAA C214.
4. Wait until the blue LED blinks (~3sec) - this confirms that wireless is disabled.
5. The wireless antenna is now OFF and the front LED turns green.

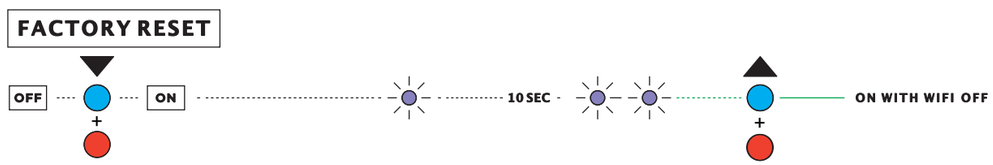


7.3 Factory reset

You can reset your **AVAA C214** to its f**actory firmware version** at any time. This may be necessary if you experience unexpected behavior or if you find that absorption was better before an update.

To perform a factory reset, follow these steps:

1. **Turn off** your AVAA C214.
2. **Press and hold** both the **RED and BLUE** rear buttons.
3. **Turn on** your AVAA C214.
4. Keep holding the buttons during startup until the **LEDs turn purple.**
5. Wait for the **purple LEDs to flash (~10 sec)** - this confirms the reset.
6. **Restart** your AVAA C214.



7.4 Resetting Wireless Network credentials

You may need to change your AVAA C214 wireless network, either because you have changed your router or traveled with your AVAA(s). There are two ways to do it:

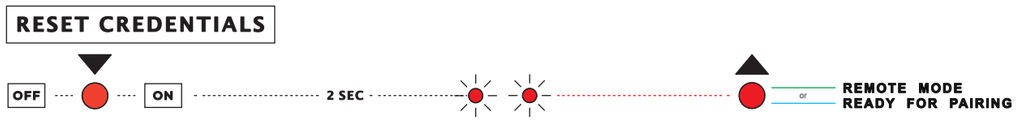
1. Reset via the App (recommended method):

1. Open the PSI Audio app and go to the AVAA C214 settings ⚙, or press and hold in the AVAA Controller app.
2. Click on "**Forget Device**" ⊗.
3. **Confirm** that you want to **remove the device from the wireless network**.

2. Manual Reset (if unable to remove via the App):

1. **Turn off** your AVAA C214.
2. **Press and hold** the **RED** rear button.
3. **Turn on** your AVAA C214.
4. Wait until the **red LED blinks (~2 sec)** - this confirms that the **wireless credentials have been erased**.
5. **Restart** your AVAA C214.

Important: Manually erasing the wireless credentials means that the AVAA C214 will no longer be controllable from the app. You must also **delete it from the app manually**.



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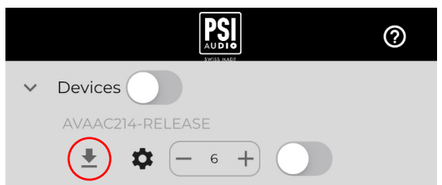
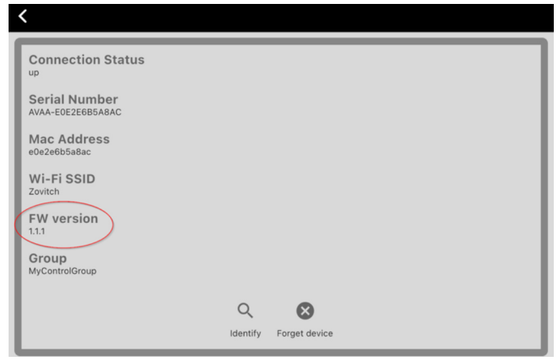
7.5 Firmware update (using the previous PSI Audio app)

From time to time, we may release internal firmware updates for your AVAA C214. These are generally minor enhancements or fixes to ensure that your C214 AVAA continues to operate correctly.You will find the reference of the currently installed version under the settings page of the smartphone application:

1. Ensure that your AVAA C214 is **turned on** and connected to your smartphone application (please refer to remote control section).
2. Once connected to your AVAA(s) you will see an **arrow** pointing down if there is a new Firmware **update available**.
3. Click on it to **update the device**.



3. To **check the Firmware version**, click on the settings ⚙ of the AVAA to display its version.

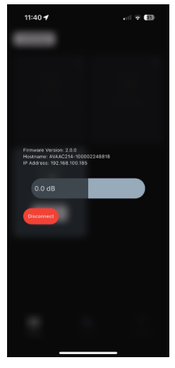


7.6 Firmware update (using the AVAA Controller app)

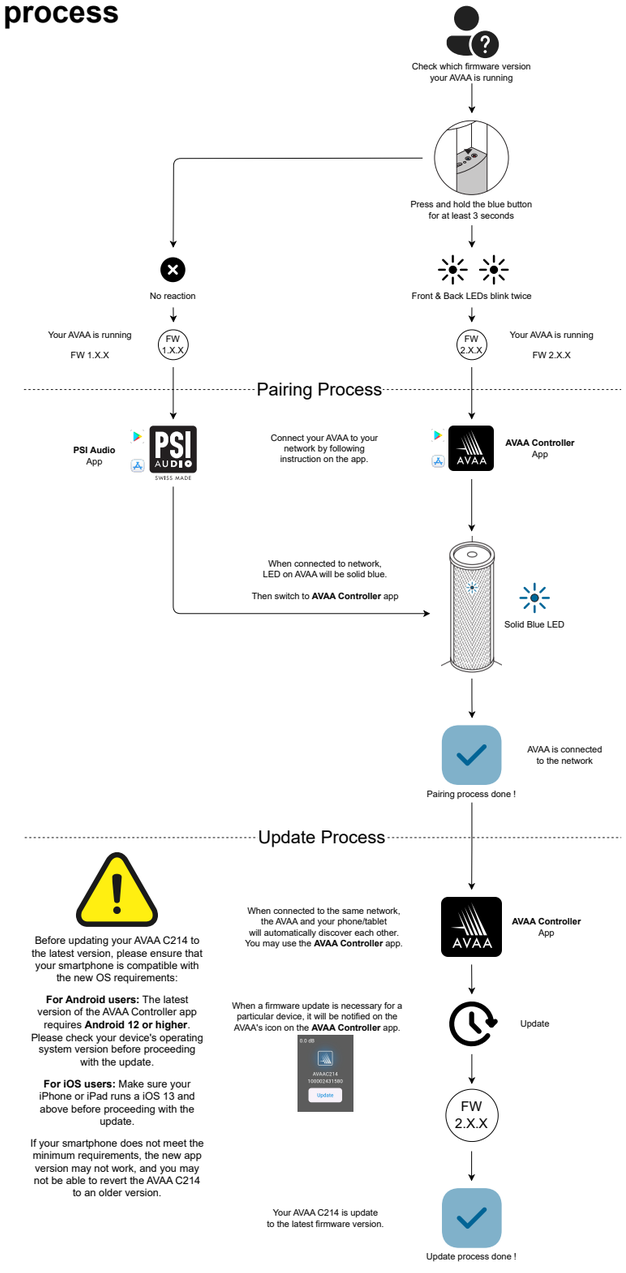
From time to time, we may release internal firmware updates for your AVAA C214. These are generally **minor enhancements or fixes** to ensure that your C214 AVAA continues to operate correctly.You will find the reference of the currently installed version under the settings page of the smartphone application:

1. Ensure that your AVAA C214 is **turned on** and connected to the AVAA Controller app (please refer to remote control section).
2. If an "**Update" button** is displayed, you can click on it in order to process to the update.

3. To **check the Firmware version**, press and hold an AVAA device in the list to display its version.



7.7 Pairing process



8. Placement and positioning in room

8.1 Environment

The AVAA C214 is designed to be effective in living rooms and studios with an Rt60 of less than 2 seconds for frequencies above 200 Hz. In smaller, more reverberant spaces, reducing the gain can help optimize performance.

8.2 Positioning

The effectiveness of the AVAA C214 depends on the room's acoustic characteristics and the placement of the loudspeakers.

For optimal results, position the AVAA C214 where the walls contribute most to the problematic room modes affecting the listening area. In practice, finding the best placement is simple and can be achieved through a few comparative tests.

1) Usual positioning of the AVAA, based on our experience

The starting position is in corners behind the source speakers as this is the most effective position in a majority of cases. However, depending on the structure of the room boundaries and listening position, other AVAA locations might turn out to be more effective. Try positioning them in different corners or against walls and evaluate effectiveness.

In practice, finding the best location is **quick and easy** by following the basic rules:

- AVAAs **positioned in corners** are more effective.
- AVAAs located **against rigid walls** are more effective.
- AVAAs positioned **in corners behind the source** are in general more effective than other similar corners.

Keep in mind that the AVAA C214 is designed to **absorb long wavelengths**, so precise positioning is not crucial.

2) Positioning the AVAAs based on room measurements

A more technical "two-step process" can also be employed to determine the optimal placement for the AVAAs.

1 - Identify the disturbing room modes:

Assuming the loudspeakers and listening position have been set, measure the frequency decay time in the listening position.
Note that the most disturbing room modes are the ones with the longest extinction time and not necessarily the peaks and nulls that are the result of inevitable first reflections.
You may typically identify 3 to 6 room modes.

2 - Identify the highest pressure zones for each problematic room mode:

Play a sine wave at the frequency of each disturbing room mode.
For each of these frequencies, walk around the walls of the room and note down the highest-pressure areas. You can do this with a sound level meter or listening with a single ear.
As a result, you should have a map of your room highlighting the wall areas most contributing to each disturbing room mode. This will clearly show the best locations for the AVAAs.

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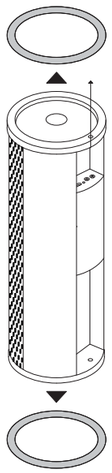
8.3 Mounting with optional feet

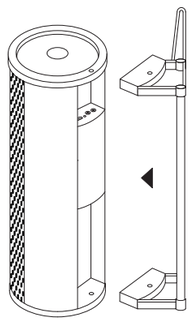
You can hang your AVAA C214 from the ceiling or wall using the optional mounting feet. They can also be useful if you want to position the AVAA C214 horizontally on the floor.

Remember that any object positioned above floor level poses a fall hazard. Always ensure your AVAA C214 units are securely positioned or mounted in a stable manner to prevent them from falling. In particular, make sure they are out of reach of children and cannot be easily tipped over.

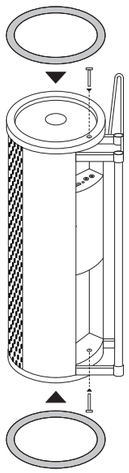
Take off the rubber rings



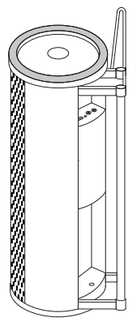
Attach the optional feet to the AVAA C214



Reassemble it



Your AVAA can now be placed horizontally on the floor



9. Troubleshooting

9.1 Power on LED does not light up

Please check that the **power switch is set on the ON** position and that the **mains cable is properly connected** to the mains. If the problem persists, check the fuse, the voltage selector and the AC power voltage. If this doesn't solve the problem, please contact PSI Audio or a PSI Audio authorised dealer.

9.2 AVAA C214 is unstable and emits noise

In normal operating mode the AVAA C214 doesn't emit any audible sound. The presence of reverberating objects in the near field of the AVAA may destabilise the system and produce noise or whistling. If the AVAA C214 becomes unstable you will distinctly hear it until the overload protection is reached, the system stops briefly and starts again.

- Remove any large reflective object that is close to the AVAA C214.
- Try positioning the AVAA C214 in a different location.
- If necessary, reduce the sensitivity of the device by pressing the blue button on the back (or via the remote on the app). 6 pressures reduce the efficiency by 12 dB.

9.3 Connection problem with the remote control

It might be possible that your smartphone does not find the AVAA C214 that you would like to pair with. In this case, please check that your internet router/box has not an automatic configuration of the frequency range of the wireless network.

To pair your AVAA, it is mandatory to have a **2.4 GHz** frequency for the wireless network. Sometimes the router prefer 5 GHz which is not compatible with the AVAA antenna.

To change this on your internet router, please check the manual of your router and disable the automatic frequency function. You can also try to generate 2 distinct network (one at 2.4 GHz and one at 5GHz).

Visit our FAQ on our website for more resources

AVAA C214
www.psiaudio.swiss info@psiaudio.swiss

10. Certificates of conformities

10.1 C.E. & RoHS Conformities

PSI Audio products have been tested and calibrated according to the highest quality standards. An individual calibration diagram is provided with each AVAA produced.

The PSI Audio products have been tested according to EU directives and amendments:

Low voltage directive (LVD), 2006/95/EC
Electromagnetic compatibility directive (EMC), 2004/108/EC
The relevant technical standards are:

EN 60065:	1998 Audio, video and similar apparatus – Safety requirements (Class 1)
EN 55103-1/E1:	1996 Product Standard – Emission Audio, Video and audio-visual apparatus for professional use
EN 55103-2/E1:	1996 Product Standard – Immunity Audio, Video and audio-visual apparatus for professional use

This product is manufactured according to the European directive 2002/95/EC

RoHS compliant 2002/95/EC

10.2 Compliance to FCC Rules

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Test report: 1472/2022

11. Warranty

Our products undergo several steps of quality control to ensure they leave our factory in perfect condition. We offer a warranty against any manufacturing or material defect for a period of 5 years on all electronics and transducers and 2 years on the aluminium boxes. Only Relec SA is able to qualify a manufacturing or material defect and its eligibility to be covered by the warranty. Wear and tear is not covered by the warranty.

Please contact your reseller for any query about warranty or servicing.
We kindly remind the user that unauthorised servicing can void the warranty. In order to provide a quality service, we ask the user to always include the warranty card at each service.

If goods need to be returned to the manufacturer (Relec SA), the symptoms must be clearly mentioned. In case of warranty, the parts and labour costs are at the charge of the manufacturer. If no defect in workmanship is detected, the warranty is considered invalid. A quote for the repair will be sent and the relative cost charged to the customer.

For services (covered or not by warranty), the expenses and the risks of the transports both ways between the customer and his supplier are the responsibility and at the charge of the customer.
For any other provision, the Swiss code of obligations, Articles 197 to 210 will apply.
For any legal action, reference will apply to the Court of Yverdon-les-Bains (Switzerland) only.

Download this manual as PDF

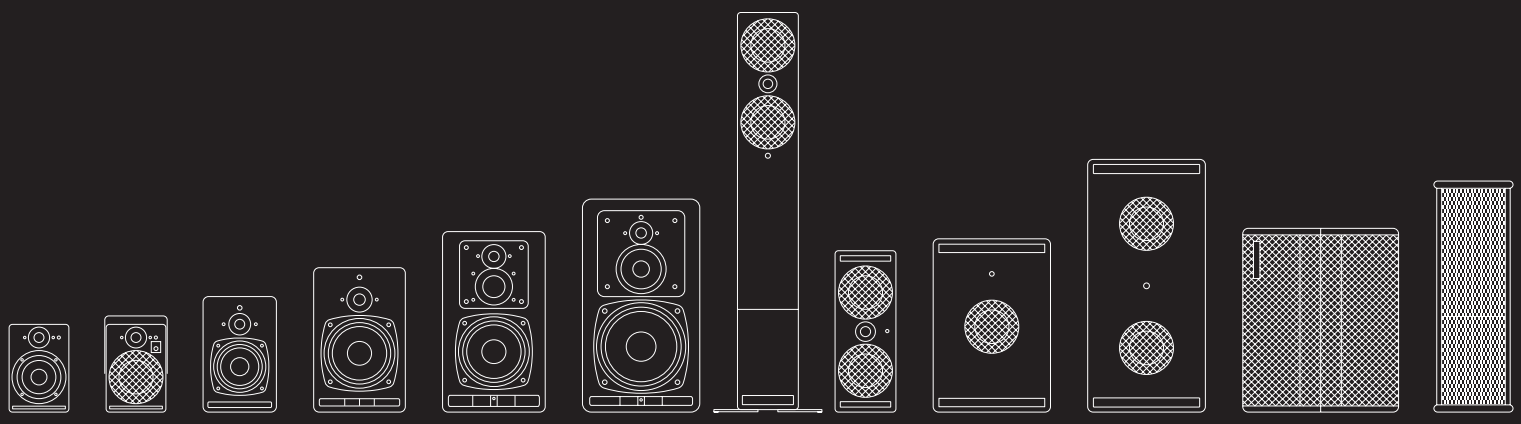
AVAA C214
www.psiaudio.swiss info@psiaudio.swiss

12. Notes

PSI AUDIO

SWISS MADE

AVAA



PSI AUDIO **THE REAL THING!**

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