



Dynamic Audio Solutions

EA5 Series

User's Manual

EA508,EA510,EA512,EA515,
EA5118,EA5212



Contents

Product Introduction	02
Safety precautions	02
Warranty	03
EA5 Technical Features	05
Presets for EA5 series	06
EA5 back panel control and functions	07
Product Application Sample of EA5 series	09
Dimension of EA5 serie	11
Installation guidance for EA5 series	12
EA5 series specification	13
Trouble Shooting	15

◆ **Product Introduction**

Thank you for purchasing EA5 series full range active speaker system and active subwoofer from Audiocenter. They have integrated technologies of switch mode power supply, big power digital amplifier and DSP control, as well as speakers made of new materials. It is the result of years of R&D effort. We hope that you can use with pleasure, just as how we designed it.

Please finish reading the manual before usage, to make sure the best performance of EA5. Please keep the manual for future reference.

◆ **Safety precautions**

When you set up, install and use the EA5, please follow the following safety measures strictly:

- There can be danger in any step during hanging installation. Everyone should pay attention to personal safety. All purchasers of Audiocenter should be professional people qualified to conduct the work related to such equipments.
- We strongly suggest the users pay full attention to local rules, regulations and laws. Installers have the responsibility to make sure the speaker installations are subject to local rules, regulations, and laws.
- If any danger or defect is detected, measures should be taken immediately to correct it.
- In touring application, please choose the installation hardware and occasion that can sustain the weight of the equipments.
- Please do not try to hang speakers over the design standard.
- When connecting the cables of the products, please use cable tie to fix the cables, to avoid actors, workers, and audience falling on the wire or brackets and affecting the speaker system.
- Please do not place the speakers near equipments sensitive to magnet fields, such as CRT display, TV or data saving materials.
- Please do not place the power cable near heating source. Do not over bend or damage the power cables. Do not place heavy things on it. Please do not place the cables that may be pressed or cause stumbling.
- Only the specified rated voltage should be used for this product. Please refer to the back panel of the product for the specified voltage.
- Only the supplied power cable or plug should be used. (If you need to use the product in a place different from the purchase place, please consult your local Audiocenter distributor..)
- Please check the power cable or plug regularly.
- Please make sure to connect to proper power socket with protection grounding connection. Wrong grounding may cause short circuits.
- The product inside does not include any component that can be repaired by users. In case of abnormal operation, please stop using immediately, and contact qualified Audiocenter maintenance worker to repair.
- Please do not use the product in the rain, or near water, or in humid environment, to avoid liquid spilling to any opening.

- When any of the following situations occurs, please cut the power immediately, and pull out the power plug from the socket, and ask qualified Audiocenter maintenance worker to repair.
 - Wear or damage of the power cable or plug.
 - Abnormal smell or smoking
 - Some substance falls into the product
 - Sound stops suddenly when using the product .
 - If the product falls or damages, please turn off the power switch immediately. Pull out the power plug from the socket, and ask qualified Audiocenter maintenance worker to repair.
 - When pulling out the power plug from the power socket or the product, please make sure to grab the plug instead of the power cable. Pulling the power cable directly may cause damage.
 - If the product is not used for long time, or there is thunder storm, please pull out the plug from the socket.
 - Please do not place the product in any uneven position. Otherwise, it may cause falling off suddenly.
 - If the product is not fixed safely, please do not place it in a position that may cause easy falling.
 - Please do not block the air hole. The product has air hole at the back to avoid internal temperature too high. Bad ventilation may cause damage to the product or even fire.
 - Please do not hang or install any other component to the handle of the speaker. It may cause damage or injure.
 - Please do not press the back panel of the product to the wall. Otherwise the plug may touch the wall and separate from the cable, and cause short circuits, malfunction, or even fire.
 - Before connecting the product to other equipment, please turn off the power switch of all equipments. Before turning on or off the power switch of all equipments, please turn down the volume to the minimum.
 - Please do not use the product in a very high or uncomfortable volume. Otherwise, it may cause permanent damage to your ear.
 - In case of sound distortion, please do not use the product. To Continue using the product in such status may cause fire.
 - Using mobile phones near the speaker may cause noise. In case of noise, please use the mobile phone far from the speaker.
 - If you need service, please contact Audiocenter service center, agent, or distributor in your area.
- ▲ In order to avoid to cause you or others body injury and loss on equipment or property, please make sure to follow above basic items.**

◆ Warranty

We ensure all the Audiocenter products are high-quality and professional goods, no matter for the performance or for the craftwork. Before delivery, each single piece of product is checked by us for outlook and also automatically tested by equipment for

high standard sound quality, then QC passed.

From the date you buy our goods, you will own the service free of charge for 6 years.

Product warranty items and Guarantee (China Mainland only)

- 1、Products warranty period is 6 years (starting from the date buying the products). During warranty period, if any damage or fault in our goods, after Audiocenter technician verified the issue was not caused by wrong operation and usage or unexpected damage during the transportation, Audiocenter will repair the products and exchange the spare parts in free of charge.
- 2、Because of long distance for oversea transportation and other changeable factors, warranty 6years is for China mainland only.
- 3、If under below conditions, Audiocenter distributor and dealers will reserve the right to reject any repair.
 - a) Products were not buy from Audiocenter dealers or distributors, or it is fakery.
 - b) Factory serial number is invalid, damaged already, obliterated, removed or no any sale record.
- 4、Under below-mentioned conditions, information on warranty card or website will be invalid.
 - 1) The issue was caused by the intentionally wrong operation.
 - 2) Problem or fault caused is by wrong handling,incorrect operation,unexpected damage
 - 3) The issue caused by inefficient outer conditions,such as oversize input voltage and huge humidity.
 - 4) The damage caused by the accident or natural hazard.
 - 5) Products were repaired by other people, not by Audiocenter technicians.
 - 6) Installation of the products in the wrong way.
- 5、Warranty and maintenance of the goods are only for Audiocenter service center or appointed distributors.
- 6、If products damaged directly or indirectly due to the equipment defective, Audiocenter won't take any responsibility.
- 7、If Audiocenter products are out of warranty period, reasonable fee will be charged for repair.
- 8、Audiocenter reserve the right for explaining of above items. If any change, we will keep you informed.

If any query, please contact us by email: support@ac-pro.net or visit our website: www.audiocenter.net.

Product Warranty Registration.

- Users fill one warranty card in duplicate, (Packed with user manual inside the bag, content is as below drawing.). Then send one of the parts to Audiocenter distributors within 30days.
- User also can log into Audiocenter official website www.audiocenter.net to register the effective warranty serial number. (Route: Home/product center/ product warranty register).
- If need to repair the goods, you are required to show out the Invoice and warranty card.
- Related information of goods in official website will be the support for the service.

Package accessories:

- Power cable
- User's manual
- Warranty card and quality certificate

Please check above items carefully. If any questions, please advise Audiocenter representative, dealers, distributors, or contact by email box: support@ac-pro.net.

Optional accessories:

- U horizontal bracket
- U vertical bracket
- Joint bracket
- Flightcase
- Cover bag
- Stand
- Coupling bar
- Handbag
- Wheel scooter(EA5118)

◆ EA5 Technical Features



EA508



EA510



EA512



EA515



EA5118



EA5212

● Features:

1. Integrated with massive big power, switch mode power supply technology and DSP control technology.
2. With built-in DSP control technology, all functions like EQ adjustment, phase correction, delay, limiter, etc, can be realized easily.
3. High efficiency Class D amplifier technology, light weight and more compact.
4. With 3 presets of EA5 Series, users can recall different presets for different applications to get the right sound performance.
5. Powerful protection function with built in DSP processing circuit that can give strong limiter protection to the HF and LF separately.
6. Advanced AD/DA converter. 96 KHz signal sampling frequency and 24-bit precision device to ensure the clear and clean sound.

◆ Presets for EA5 series

There are three presets in EA5 series full range speakers for users to recall for usage in different applications.

1st preset-MAIN

2nd Preset-SPEECH(Only for EA508/510)&F/Monitor(Only for EA512/515)

3rd Preset-W/SUB

Presets for EA5 series are set up by factory before shipment. Users can only recall the presets for usage in different applications, but can't change or delete the presets.

● 1st preset-MAIN

This is the default preset in EA5 series when users operate EA5 for the first time or reset the preset. With this preset, the frequency response of the EA5 between 80Hz-18 KHz is special linear response. The HF and LF are in a balance. It is the balance between high frequency and low frequency. With Equalizer or external DSP, users can simply adjust the frequency response of the speakers to meet some special application demand, such as defective architectural space acoustics, strange sound source or personal taste sound.

● 2nd Preset**Speech preset (only available for EA508 and EA510)**

Base on MAIN preset, the frequency range of human voice is highlighted. Below 200Hz, the LF is reduced, and gain of human voice frequency range is increased, which is to enhance the clarity of human sound. Speech preset is used for company activities, presentations and public speech etc.

F/Monitor preset (only available for EA512 and EA515)

It is used as stage monitor, lower down the low frequency response range, and to avoid the noise when placing the speaker directly on the floor. When it is used as monitor speaker, the sound of MF and HF is very clear.

● 3rd Preset-W/SUB

This preset is made to match EA5 with subwoofer. To work together with subwoofers, EA5 can have much better sound dynamic. Audiocenter subwoofers or subwoofers of other brands are recommended to work with EA5118 or EA5212.

◆ Presets for EA5118 & EA5212

To match with Audiocenter EA5 series or speaker systems of other brands, EA5118 & EA5212 are designed with 3 different kinds of presets: 80Hz,100Hz and 120Hz.

The polarity of EA5118 & EA5212:

Polarity, also called as phase sometimes, means that the input voltage is positive or negative in specific time. In most cases, the positive will drive the diaphragm of the speaker to move forward, and the negative will drive it backward. When a specific frequency signal or similar signal repeats, the polarity must be the pull same, so that the input efficiency will be the highest. For subwoofer system, this is very important. Wrong connection or usage will change the polarity, and lower the system's efficiency.

EA5118 & EA5212 polarity can be changed according to different using conditions.

When full range speakers system and subwoofer speaker system are combined, please change the phase according to their distance to get the best sound performance.

◆ EA5 back panel control and function



- 1 Power Indicator:**
When speaker connected to power, the LED is on.
- 2 SIGA /SIG (SIGNAL) Indicator:**
When detecting channel MIC/LINE A (LINE IN) has input signal, the LED is on.
- 3 SIGB (SIGNAL) Indicator:**
When detecting channel LINE B or AUX has input signal, the LED is on.
- 4 LIMITER Indicator**
The LED turns on when output limiter is activated. If the output voltage of the amplifier exceeds the maximum value, output limiter will be activated, damping the output signal of the amplifier.
- 5 PRO (PROTECT) Indicator**
The light turns on if the amplifier is detected to be overheated. And the amplifier enters into the protection status.
- 6 Front LED button switch**
The front panel LED indicator light won't illuminate when the switch is pressed down (this setting is recommended when the front panel LED indicator light is too blinding). Upspring the button, the front panel LED indicator light on (operating mode: blue light; standby mode: red light).
- 7 LINE /MIC switch**
According to the level of the input signal, set the LINE / MIC switch to LINE or MIC. For low-level signals such as microphones, set the switch to the MIC position. For high-level signals such as electro-acoustic and audio devices, set the switch to the LINE position.
- 8 INPUTS socket (MIC / LINE A)**
Balanced XLR and Phone multi-purpose input socket

9 OUTPUTS socket (OUT A)

Balanced XLR outputs socket, parallel to the INPUTS socket (MIC / LINE A), the signal in LINE OUT is equivalent with the signal in LINE IN. And the input signal can be bypassed without influence.

10 Inputs socket (LINE B)

Balanced XLR and Phone multi-purpose input socket

11 OUTPUTS Socket (MIX OUT)

Balanced XLR outputs socket. Balanced output mix signal (which can mix direct input signal of the three channels into a whole)

12 Input socket (AUX)

Unbalanced RCA input socket

13 Input socket (LINE IN)

Balanced XLR input socket

14 OUTPUTS Socket (LINE OUT)

Balanced XLR output socket, parallel to the INPUT socket (LINE IN), the signal in LINE OUT is equivalent with the signal in LINE IN. And the input signal can be bypassed without influence.

15 GAIN A (GAIN) Gain control knob

Use the GAIN A knob to control the gain of the input signal on MIC / LINE A (LINE IN). This control can adjust the sensitivity to control the amount of semaphore sent to the power amplifier and then to the speaker subassembly.

16 GAIN B (GAIN) Gain control knob

Use the GAIN B knob to control the gain of the input signal on LINE B and AUX. This control can adjust the sensitivity to control the amount of semaphore sent to the power amplifier and then to the speaker subassembly.

17 Preset choosing button

For EA5 series, there are 3 presets available for the users choosing according to different sound performance needed in different applications. Users can choose the optimal sound performance via buttons.

18 USB Terminal

For factory to debug DSP (no available for users)

19 The polarity of EA5 series:

Polarity, also is called as phase, means that the input voltage is positive or negative in specific time. In most case, the positive will drive the diaphragm of the speaker to move forward, and the negative will pull it backward. When a specific frequency signal or similar signal repeats, the polarity must be the same, so that the input efficiency will be the highest, which is very important for subwoofer system. Wrong connection or usage will change the polarity, and lower the system's efficiency.

EA5 series polarity can be changed according to different using conditions.

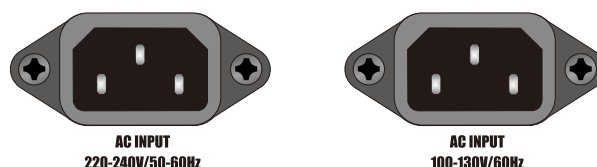
When full range speakers system and subwoofer speaker system are for combined application, please change the phase according to their distance to get the best sound performance.

20 Power switch

Turn the power on or off, pull the switch up to position (1) to turn on the power, and pull the switch down to the position (0) to turn off the power.

**21 AC input Slot**

Connect the cable to the slot. Connect the power wire to the device first and then connect the cable to the AC slot.

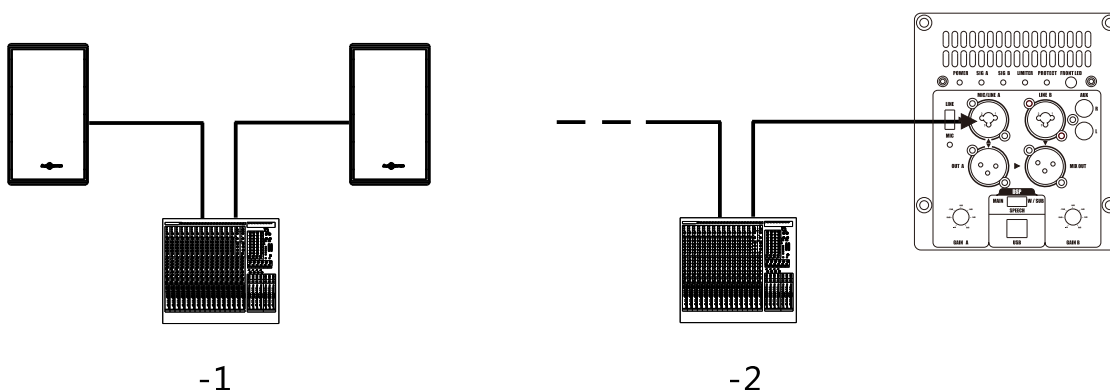


NOTE: The EA5 employs a universal power supply, capable of operating the system with input AC power voltages ranging from 100V~130V/220V~240V (50/60Hz). Use only the power cable that is correct for your location.

◆ Product Application Sample of EA5 series

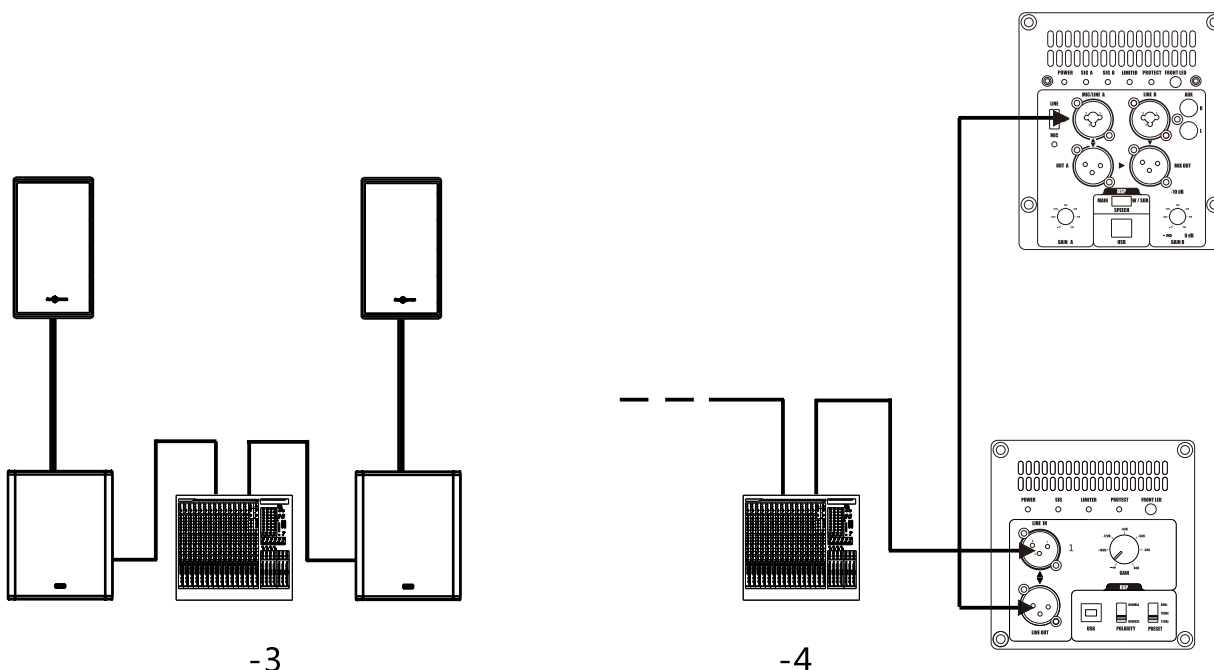
1. Basic system application

Below is the basic system application with 2pcs of EA5 series full range speakers. This system is ideal for small size touring performance, restaurant and rehearsal etc.. .



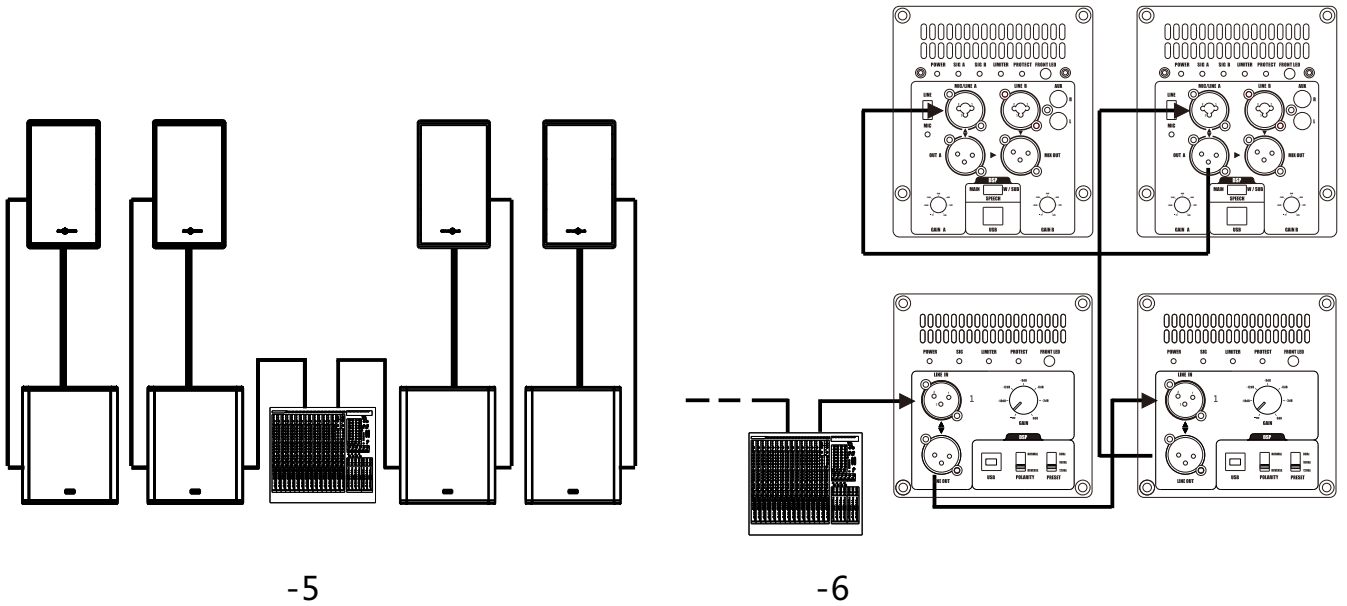
2. Basic system with subwoofer:

Below is the basic system with 2pcs of EA5 series full range speakers and 2pcs of subwoofers with coupling bars. This system is ideal for small size touring performance, church and small stadium,etc..



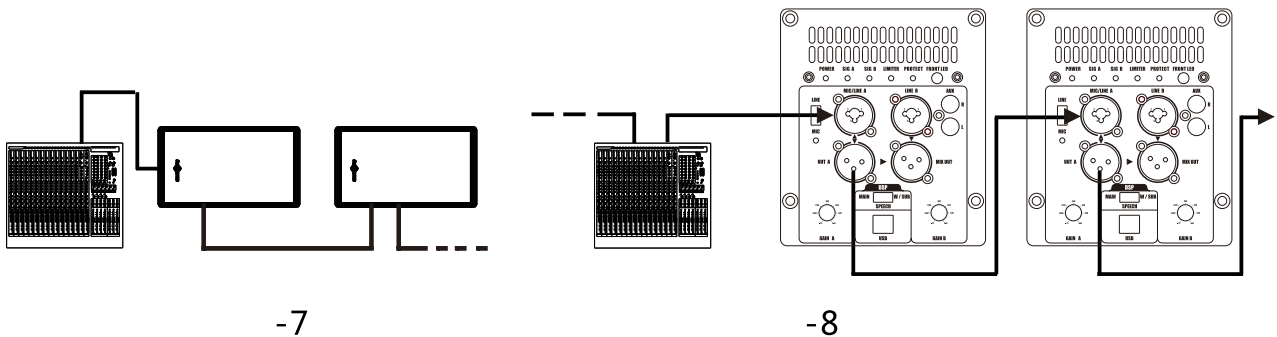
3. System for medium scale application:

Below is the system for medium scale application with pcs of EA5 series full range speakers and pcs of subwoofers, This system is ideal for medium size touring performance, church, etc.



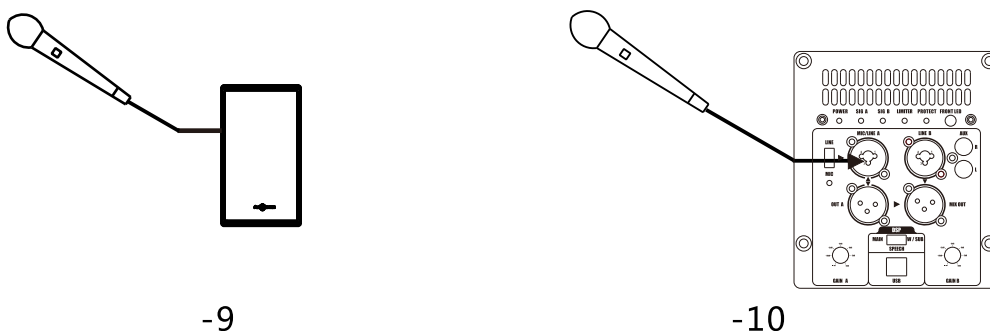
4. Monitor System :

The following introduces the use of EA512 or EA515 speakers for stage monitoring

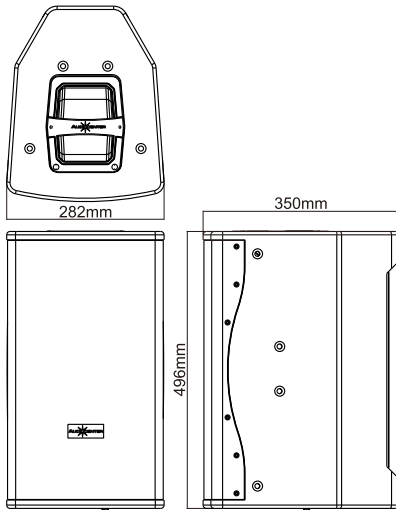


5. System with Microphone :

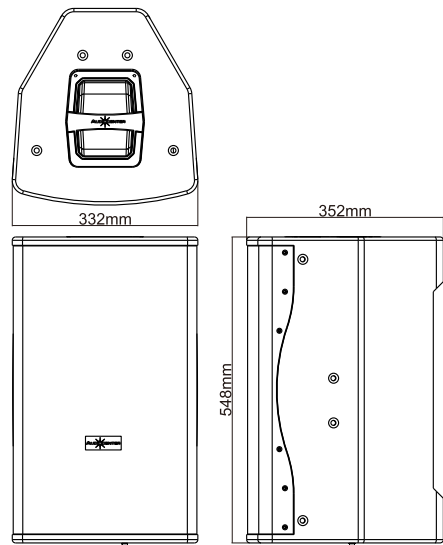
Below is the application of EA5 Series speakers with one microphone. In this situation, please recall the "MAIN/SPEECH" preset, and set the switch at "MIX" position. This system is ideal for seminar, product launch, etc.



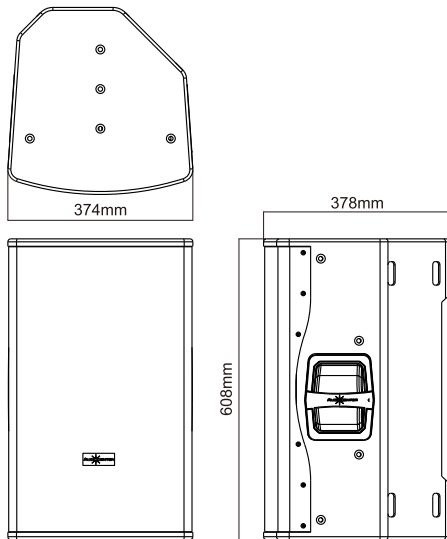
◆ **Dimension of EA5 series**



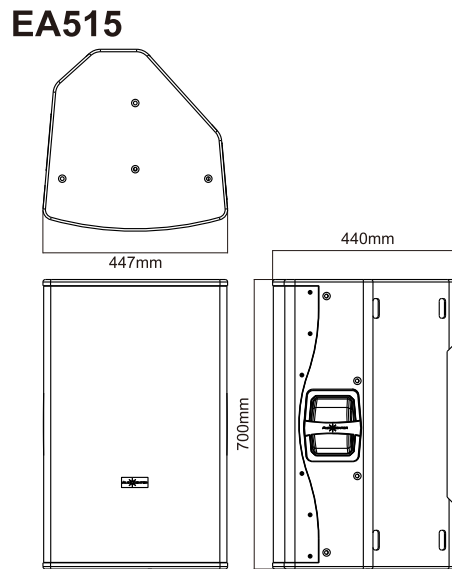
EA508



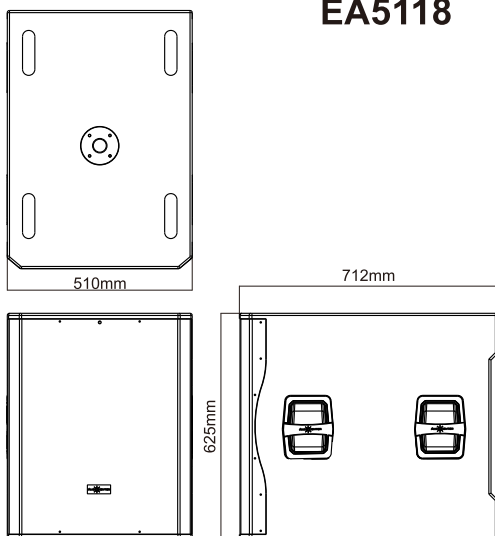
EA510



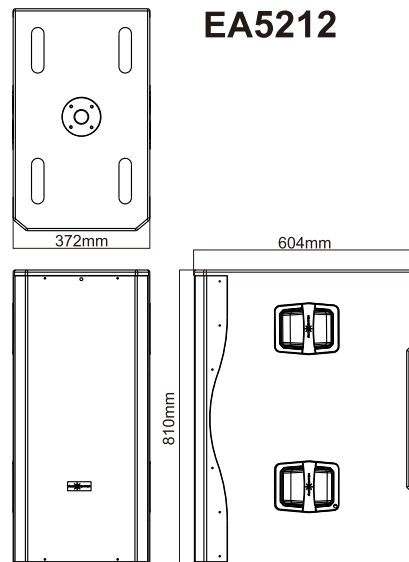
EA512



EA515



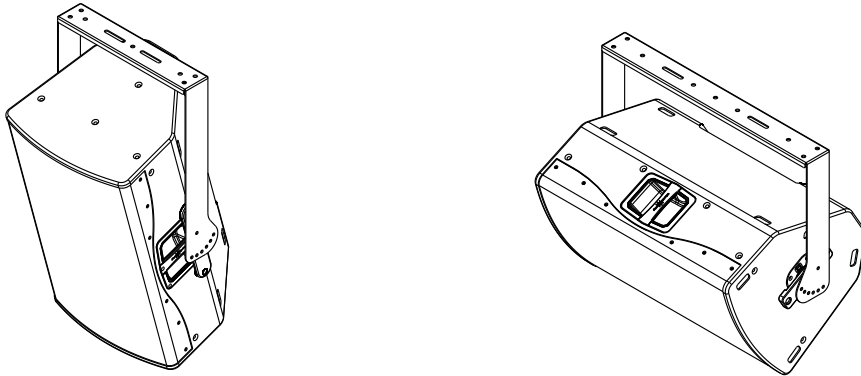
EA5118



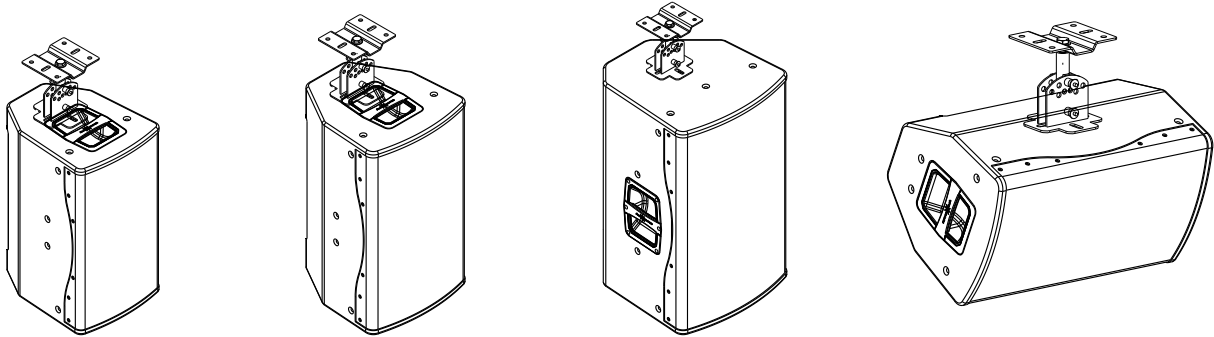
EA5212

◆ **Installation guidance for EA5 series**

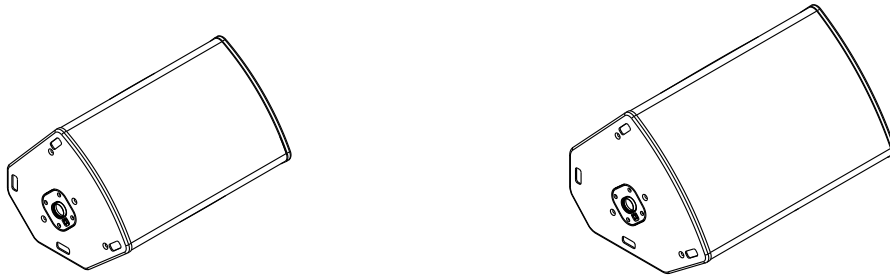
U shackle hanging is available for EA512 /EA515 only.



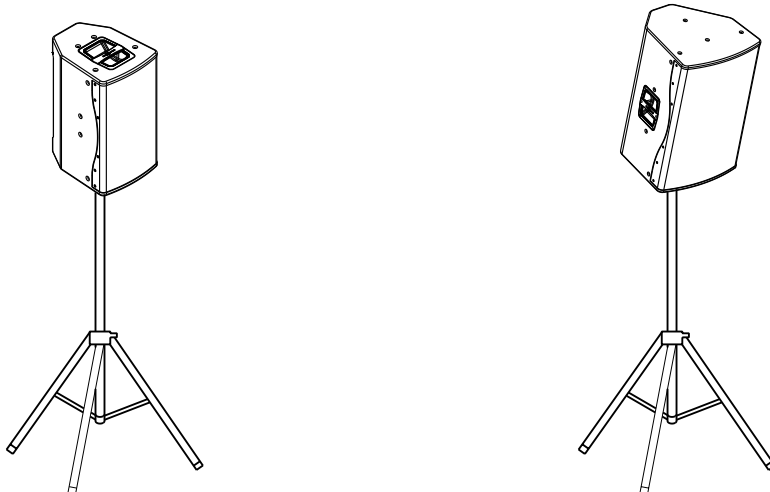
Single point hanging is available for EA508 /EA510 /EA512 only.



Floor monitor: EA512 and EA515 (choose preset F /Monitor to use)



0 degree -10 degree adjustable according to different applications.



◆ EA5 series specification

Specifications		EA508	EA510	EA512	EA515
Frequency Response (-6dB anechoic chamber)		60Hz-20KHz	55Hz-20KHz	45Hz-20KHz	40Hz-20KHz
Driver	HF	Customized BEYMA HF driver , ferrtie,1.4"exit , 1.75"voice coil			
	LF	Customized Audiocenter LF driver , ferrtie, 2"voice coil	Customized Audiocenter LF driver , ferrtie, 2.5"voice coil	Customized Audiocenter LF driver , ferrtie,3"voice coil	
Directivity (-6dB) (H° xV°)		90° x60°		60° x40°	
Maximum Calculated SPL/1M	Continuous	123dB	125dB	128dB	130dB
	Program	126dB	128dB	131dB	133dB
	Peak	129dB	131dB	134dB	136dB
Average H2 Distortion (200Hz-10KHz)		<2% at 1W			
Average H3 Distortion (200Hz-10KHz)		<0.5% at 1W			
Consistency		±1.5dB(150Hz-10KHz)			
DSP					
Processor		96KHz signal sampling frequency , 24-bit precision			
Amplifier					
Amplifier Circuitry		Class D			
Max output Power		2000W			
Frequency Response(1W 8Ω 2ch)		20Hz-20KHz(±0.5dB)			
Intermodulation Distortion		< 0.05%			
Cooling System		Cooling with fans, air convection			
Input Impedance		XLR: Balanced 40KΩ /Unbalanced 20 KΩ			
Input sensitivity(Gain maximum)		LinE : +3dB RCA(Stereo input) : -9dB MIC:-24dB			
Max input electrical level		LinE : +18dB RCA(Stereo input) : +6dB MIC:-9dB			
Protection	DC protection	±5V			
	Short circuit Protection	√			
	Overheat Protection	Reduced output by half at 75°C and shut off AMP at 90°C			
	Output overload protection	√			
	Soft startup Protection	Around 1s			
	Overvoltage protection	Overvoltage protection activated when over 10% of AC rated voltage			
	Undervoltage protection	Undervoltage protection activated when less than 10% of AC rated voltage			
Crossover	Low pass	By DSP			
	High Pass	By DSP			
Cabinet					
Dimensions (WxHxD)		282x496x350mm	332x548x352mm	374x608x378mm	446x700x440mm
Net Weight		16kg	19kg	25kg	30kg
Cabinet		CNC made cabinet			
Base Mount		1 base holes Φ35mm at the bottom,0°and10° adjustable			
Optional Accessories		U Bracke,Single point hanging frame,Flexible wall mounting bracket, Coupling bar,Flight case, Durable rain bag,Handbag			
Technical Support and After-sales Service		Global application support team, EASE GLL files for free			

AUDIOCENTER Reserves the rights to change specifications without prior notice in case

◆ EA5 series specification

Specifications		EA5212	EA5118
Frequency Response (-6dB anechoic chamber)		42Hz-200Hz	35Hz-150Hz
Driver	LF Tvansducer	Customized Audiocenter LF driver, ferrite,3.5" voice coil	Customized Audiocenter LF driver, ferrite,4" voice coil
Directivity (-6dB) (H° xV°)		/	
Maximum Calculated SPL/1M	Continuous	133dB	131dB
	Program	136dB	134dB
	Peak	139dB	137dB
Average H2 Distortion (200Hz-10KHz)		<2% at 1W	
Average H3 Distortion (200Hz-10KHz)		<0.5% at 1W	
Consistency		±1.5dB(40Hz-150Hz)	

DSP

Processor	96KHz signal sampling frequency , 24-bit precision
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Amplifier

Amplifier Circuitry	Class D	
Max output Power	2000W	
Frequency Response(1W 8Ω 2ch)	20Hz-6KHz(±0.5dB)	
Intermodulation Distortion	< 0.05%	
Cooling System	Cooling with fans, air convection	
Input Impedance	XLR: Balanced 40KΩ /Unbalanced 20 KΩ	
Input sensitivity(Gain maximum)	LinE : +3dB	
Max input electrical level	LinE : +18dB	
Protection	DC protection	±5V
	Short circuit Protection	√
	Overheat Protection	Reduced output by half at 75°C and shut off AMP at 90°C
	Output overload protection	√
	Soft startup Protection	Around 1s
	Overvoltage protection	Overvoltage protection activated when over 10% of AC rated voltage
	Undervoltage protection	Undervoltage protection activated when less than 10% of AC rated voltage
Crossover	Low pass	By DSP
	High Pass	By DSP

Cabinet

Dimensions (WxHxD)	372x810x604mm	510x625x712mm
Net Weight	42kg	42.5kg
Cabinet	CNC made cabinet	
Base Mount	1 base holes Φ35mm on the top	
Optional Accessories	Flight case, Wheel,Coupling bar,Durable rain bag	
Technical Support and After-sales Service	Global application support team, EASE GLL files for free	

AUDIOCENTER Reserves the rights to change specifications without prior notice in case

◆ Trouble Shooting

Symptom	Possible reasons	Solution
Power LED not light	Cable not connected correctly	Connect the cable correctly
No sound	Cable not connected correctly. Or too small gain.	Connect with input socket correctly. Adjust speaker output gain input bigger.
Feedback in the sound	Microphone is toward to speaker Sound is too high. Wrong preset used.	Keep speakers out of the microphone response area. Lower the output gain,.
Sound Discrepancy from different speakers .	Different gain for different speakers Different presets for different speakers Subwoofers are out phase	Put the same gain for different speakers. Use the same presets for different speakers. Make the subs in phase
Sound distortion	Input volume is too big Output volume too big	Reduce the input volume of the equipments Reduce the output gain of the speakers, make the Limiter LED lighted a bit If the sound still distorted while the volume is set to minimum, make the MIC/LINE switch to be LINE.
Microphone volume is too small	MIC/LINE switch is set at LINE	Sep the MIC/LINE at MIC
Not enough SPL while full range speakers used together with subs	Subs might be out of phase	Adjust the phase of subs
The light signal is on, there is a signal output, but the speaker does not sound	Maybe the volume knob is set to the minimum,Closing the volume	Slightly increase the volume knob

★ Please consult distributor if there are still problems



Dynamic Audio Solutions