

**AUDIOCENTER**

Dynamic Audio Solutions

**BrainCore™**

Technology Inside

# User's Manual

## WM210-DSP

Active DSP Wedge Monitor



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## ◆ Product Introduction

Thank you for purchasing WM210-DSP Wedge Monitor 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 WM210-DSP. Please keep the manual for future reference.

## ◆ Safety Precautions

When you set up, install and use the WM210-DSP, 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 displayer, 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 3 years.

Product warranty items and Guarantee (China Mainland only)

- 1、 Products warranty period is 3 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 free of charge.
- 2、 Because of long distance for oversea transportation and other changeable factors, warranty 3 years 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 bought 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 has the final right to interpret the above terms and conditions and is subject to change without notice. To contact us, please call 020-86767882 or visit our website at **[www.audiocenter.net](http://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 30 days.
- User also can log into Audiocenter official website **[www.audiocenter.net](http://www.audiocenter.net)** to register the effective warranty serial number. (Route: Home/product center/ product warranty register).
- If you 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
- 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](mailto:support@ac-pro.net).

**Optional accessories:**

- Flightcase
- Cover bag

◆ **WM210-DSP Technical Features**



**WM210-DSP**

● **Features:**

1. The innovative BrainCore™ technology and built-in powerful DSP processor improve the performance of the speaker. With Cort™ correction technology and Limita™ processing technology, the system works with safety and reliability and achieves supreme performance.
2. 3 different presets: FLAT, VAOCAL, DRUM, users can choose the preset according to their needs via the switch on the back panel.

WM210-DSP adopts customized Class D Amplifier together with switch mode power technology, which ensure the system for high efficiency, exquisite and compact outlook, advanced cooling effect and high quality.

4. Moulded large heatsink improves the cooling efficiency, with the result of higher reliability of the system.
5. Front loaded cabinet design lowers the limit of low frequency. The cabinet is very small and compact but can reach very high SPL.

● **WM210-DSP standby function:**

WM210-DSP are equipped with an automatic standby function that saves power when not in use. If WM210-DSP input terminal does not have an audio signal for 15 minutes (or the volume is minimal), the device will be in standby mode, and the indicator light in front of the speaker will change from blue (working) to red (standby). When the device is in standby mode, if an audio signal appears, the indicator light in front of the speaker will change from red (standby mode) to blue (working mode). When the amplifier is in standby mode, a small amount of current continues to flow in order to awaken the amplifier. It takes about 2 seconds to go from standby to full operation without any sound.

◆ WM210-DSP Back Panel Control and Function



WM210-DSP back panel

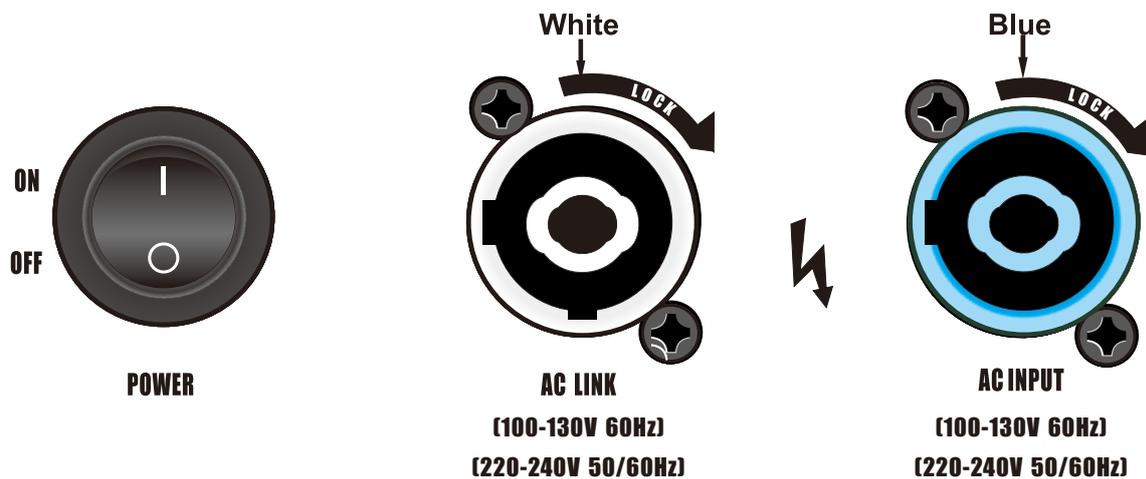
100-130V 60Hz



WM210-DSP back panel

220-240V 50/60Hz

- 1 POWER Indicator**  
When speaker is connected to power, the LED is on.
- 2 SIGNAL Indicator**  
When input signal is detected, the LED will turn on.
- 3 LIMITER Indicator**  
The LED will turn on when output limiter is activated. If the output of amplifier exceeds the maximum value, the output limiter will be activated, thus damping the output signal.
- 4 PROTECT /STANDBY Indicator**  
If there is something wrong with the speaker, the LED will turn on automatically. If the speaker enters into standby mode, the LED will also turn on.(working mode: blue light; Standby: red light)
- 5 INPUTS socket (LINE A/MIC)**  
Balance the XLR and PHONE type multi-purpose input pin. (LINE A/MIC)
- 6 OUTPUTS socket (LINE A/MIC)**  
Balance the XLR and PHONE type multi-purpose output pin. (LINE A/MIC)
- 7 USB port**  
The port is used for DSP debugging (not open to users).
- 8 Preset switch**  
There are 3 presets (Flat, Vocal, Drum) available for WM210-DSP, users can choose the preset according to their needs via the switch on the back panel.
- 9 MASTER VOLUME control knob**  
MASTER VOLUME knob controls the gain input signal of all the channels. This control can adjust the sensitivity, so as to control the amount of semaphore sent to the power amplifier and then to the speakers.
- 10 Power switch**  
Turn the power ON or OFF, pull the switch up to position ( I ) to turn ON the power, and pull the switch down to the position ( O ) to turn OFF the power.
- 11 Power connection**  
WM210-DSP has a loop-through power connection system. With four cable extensions and one AC power cord, you can power up 5 pcs WM210-DSP speakers maximum with one single 16 amp/120V (8amp/240V) power supply. The loop-through connection is coded by color (blue=AC INPUT, white =AC LINK) and it has different buckles to ensure proper connection.



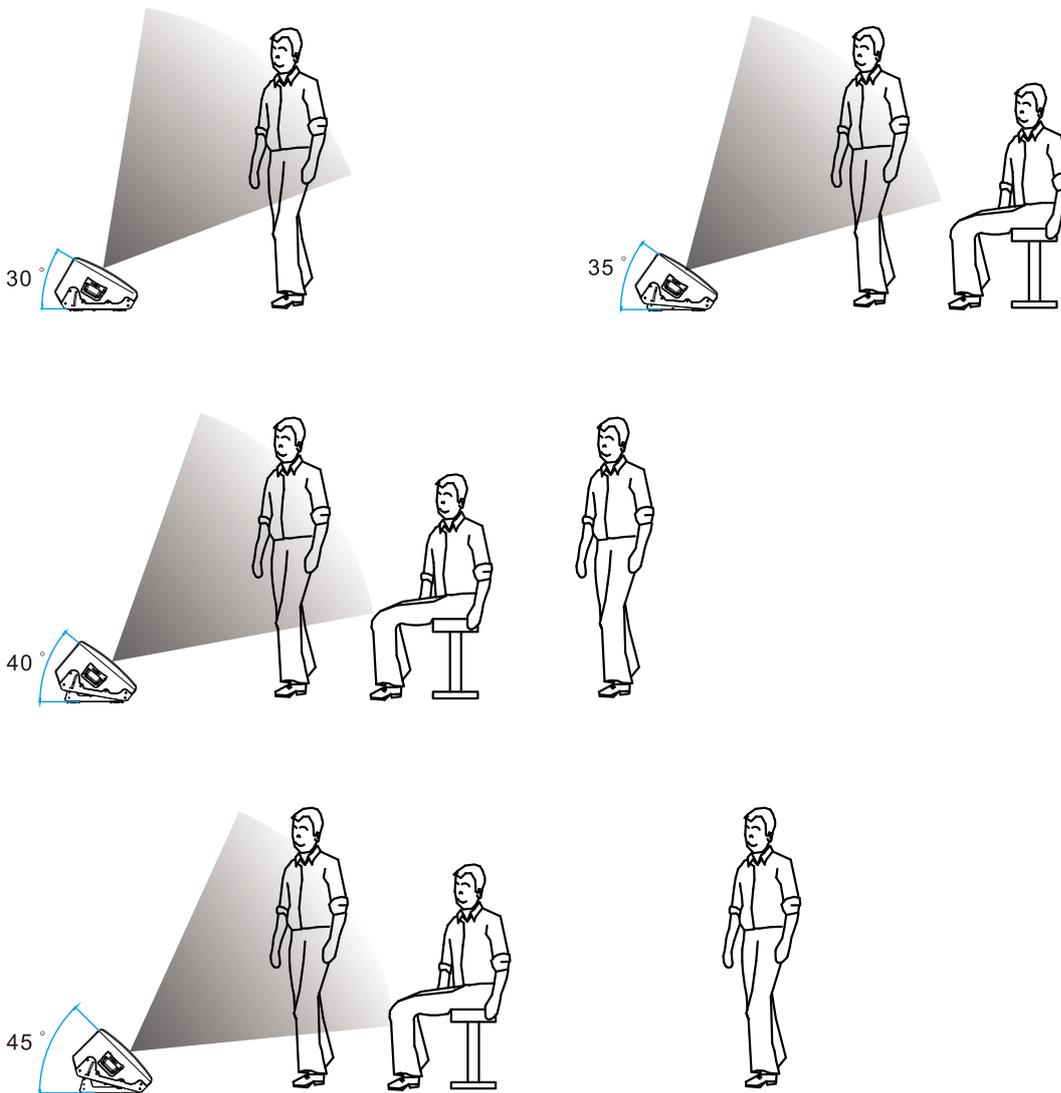
- ⚠ Warning!** : The switch on the speaker won't disconnect the AC on the extensions cables. If the AC power is connected to one speaker, all speakers that linked by the cable extensions will be connected.
1. Make sure all AC power switches are off.
  2. Make sure the AC power cord is not connected. AC power is the last power connection in this sequence.
- ⚠ Warning!** : With four pcs powerCON extensions and one pcs AC power cord, you can power up 5 pcs WM210-DSP speakers maximum with one single 16 amp/120V (8amp/240V) power supply. If you are using the power cable, make sure all the cables are connected well before connecting to the main power supply.
3. Make sure the white powerCON connector is connected well with the AC LINK port on the speaker.
  4. Turn the powerCON connector clockwise until it locks well.
  5. Make sure the blue powerCON cable is connected well with the AC INPUT port on the speaker.
  6. Turn the powerCON connector clockwise until it locks well.
  7. Repeat above step until all the speakers are properly connected (Please follow up the suggestions of the maximum speakers you can connect).
  8. Completely insert the blue powerCON connector on the AC power cord into the blue AC INPUT connector on the first amplifier in the signal chain.
  9. Turn the powerCON cable connector clockwise until it locks into place.
  10. Plug the other end of the power cord into the appropriate AC power supply.
  11. Now you can turn on the AC power switch using the power-on procedure in this document.

### Power-on sequence

1. Turn the input level of the mixer (or other source) that inputs the speakers to the lowest value.
2. Turn on all audio equipment (CD player, mixer, instrument).

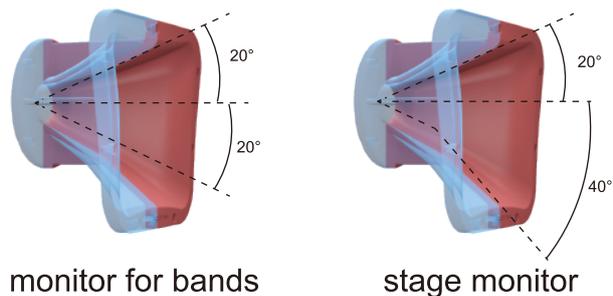
**⚠ NOTE** : WM210-DSP has a universal power supply that supports system operation with AC input voltage from 100-130VAC(60Hz), 220-240VAC(50/60Hz). Please only use the correct power cable which supports above voltage input.

◆ Product Application Sample of WM210-DSP

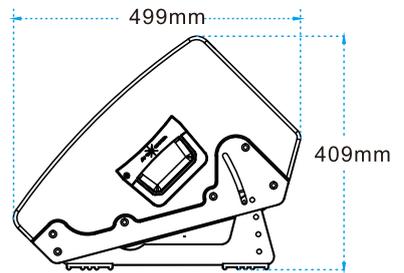
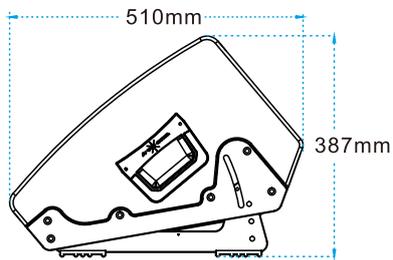
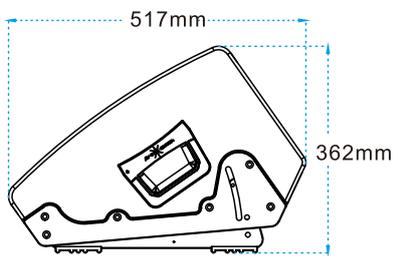
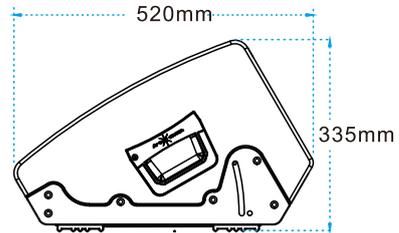
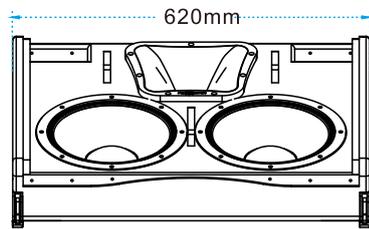


- The waveguide of WM210-DSP provides a perfect coverage angle of 60° (20° Up-40° Down) x 60°, which can achieve symmetrical sound field coverage of large and medium-sized shows and live bands, WM210-DSP can fulfill the requirements of artists with excellent performance and high audio reproduction. The vertical adjustable angle is from 30° to 45° (30°, 35°, 40°, 45° every 5° adjustable)

- The vertical angle of the horn of the WM210-DSP is divided into short and long throw. The upper angle of 20 degrees is for the near-field sound reinforcement (monitor for bands). The lower angle of 40 degrees is for long throw sound reinforcement (stage monitor)



◆ Dimension of WM210-DSP



◆ WM210-DSP Specification

SPECIFICATIONS		WM210-DSP
Frequency Response (-6dB anechoic chamber)		55Hz-20KHz
Coverage Angle (Symmetrical)		60° x 40° (Live band) , 60° x 60° (Stage)
Maximum Calculated SPL/1M	Continuous	126dB
	Program	129dB
	Peak	132dB
Drivers	HF	Customized Beyma ferrite driver, 1.4"exit, 3"voice coil
	LF	Customized Audiocenter ferrite driver, 2.5"voice coil
Signal Input/Output Connector		1×NEUTRIK® female XLR / 1×NEUTRIK® male XLR
Power Input/Output Connector		Power connector
Working Voltage		100V-130V(60Hz);220V-240V(50/60Hz)

DSP	
Processor	96KHz signal sampling frequency, 24bit precision

AMPLIFIER		
Amplifier	Class D	
Power(Peak)	1600W	
Frequency Response (1W 8Ω 2ch)	20Hz-20KHz(±0.5dB)	
Intermodulation Distortion (20Hz-20KHz, half power)	<0.05%	
Total Harmonic Distortion (20Hz-20KHz, Rated power 8Ω)	<0.05%	
Cooling		
Cooling with fans, air convection		
Protection	DC protection	√
	Short circuit protection	√
	Overheat protection	√
	Output overload protection	√
	Soft startup protection	√
	Overvoltage protection	√
	Undervoltage protection	√

CABINET	
Cabinet	CNC made of Russian birch plywood
Optional Accessories	Flightcase / Cover bag
Dimensions(W×H×D)	620x338x465mm
Net Weight	33.0Kg
Technical Support and After-sales Service	Global application support team

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.	Speaker should be far away from the microphone sound pickup area to reduce the output gain, making the microphone closer to the sound source
Sound Discrepancy from different speakers .	Different gain for different speakers	Put the same gain for different speakers.
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.

★ Please consult distributor if there are still problems



Dynamic Audio Solutions