

USER'S MANUAL

Artist T45-DSP&T115S-DSP

Active DSP-controlled Line Array Speaker System



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Thank you for purchasing Audiocenter active line array speaker system with built-in DSP Artist T45-DSP & T115S-DSP System. They have integrated technologies of switch mode power supply, massive big power Class D amplifier and DSP control, as well as speakers made of new materials to design a new set of active line array speaker system with DSP control.

Please finish reading the manual before usage, to make sure the best performance of Artist T45-DSP&T115S-DSP System. Please keep the manual for reference in the future.

◆ Safety precautions

When you set up, install and use the Artist T45-DSP&T115S-DSP system, please follow the following safety measures strictly:

- There can be danger in any step during hanging installation. Everyone should check whether there is any damage on all hardware devices and 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.
- Please do not place the power cable near heating source. Do not over bend or damage the powercables. Do not place heavy things on it. Please do not place the cables that may be pressed or cause stumbling
- Please do not place the speakers near equipments sensitive to magnet fields, such as CRTdisplayer, TV or data saving materials.
- 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 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 liquids 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.
 - This equipment is fell or damaged.
 - 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.
- Regularly check the power cord and plug.
- 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 vents. The product has air hole vents 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 injury to you or others and loss on equipment or property, please make sure to follow above basic items.**

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.

Optional accessories:

Frame for flying and ground stacking

Three-feet stand (Artist T45-DSP)

Coupling bar (900mm)

Flightcase

Dolly (Artist T115S-DSP)

Protective bag

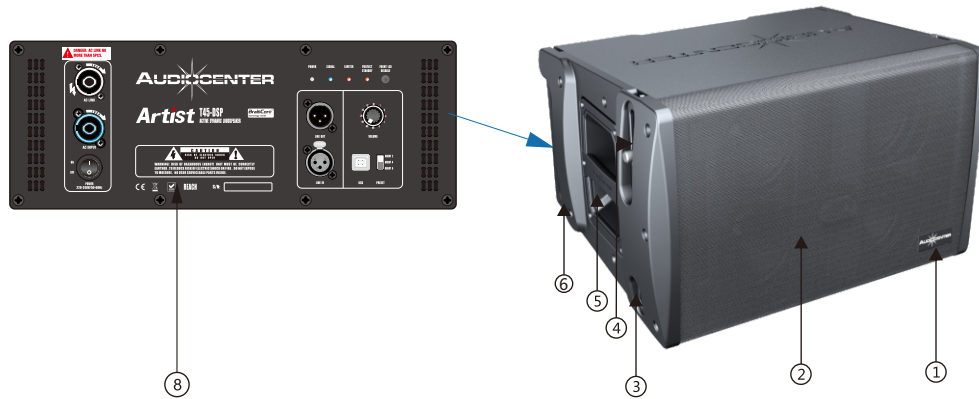
◆ **Trouble shooting**

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	Correct with input socket correctly Adjust speaker output gain into bigger
Feedback in the sound	Microphone is toward the 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 preset for different speakers Subwoofers are out phase	Put the same gain for different speakers Use the same preset for different speakers Make the sub in phase
Sound distortion	Input volume is too big Output volume is too big	Reduce the input volume of the equipments Reduce the output gain of the speakers, making the Limiter LED lighter a bit
Not enough SPL while full range speakers used together with subs	Subs might be out of phase	Adjust the phase of subs

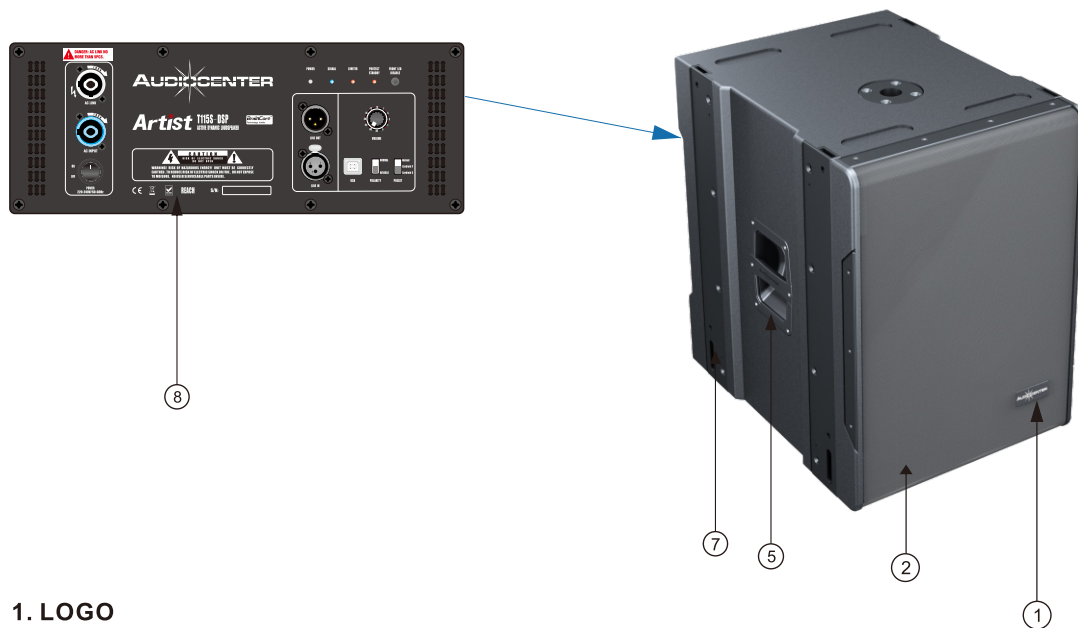
★ Please consult distributor if there are still problems.

◆ Appearance

Artist T45-DSP



Artist T115S-DSP



1. LOGO
2. Grill
3. Front slider
4. Front built-in locking accessories
5. Handle
6. Back slider
7. Back built-in locking accessories
8. Amplifier module

◆ Presets

Presets for Artist T45-DSP

There are three presets in Artist T45-DSP speaker which can be recall in different applications.

1-ARRAY 2

2-ARRAY 4

3-ARRAY 6

The preset is the factory pre-installed setting for Artist T45-DSP system. It cannot be edited, deleted or modified but can only be recalled by customers according to different applications. The three preset settings are based on Artist T45-DSP and T115S-DSP combined into different application systems, to debug matching parameters.

● 1-ARRAY 2

This preset is mainly applicable to the usage of 2+1 system package. 2pcs Artist T45-DSP and 1pc Artist T115S-DSP flying, ground stack or pole mount.

● 2-ARRAY 4

This preset is applicable to the usage of 4pcs Artist T45-DSP flying or ground stack.

● 3-ARRAY 6

Based on ARRAY 4, this preset is applicable to the usage of 6pcs or more Artist T45-DSP flying with the full consideration of long distance spread of sound.

Presets for Artist T115S-DSP

There are three presets for Artist T115S-DSP subwoofer.

● 1-Normal

80Hz low-pass filtering is set to match with Artist T45-DSP or other speaker systems.

● 2-Cardioid F

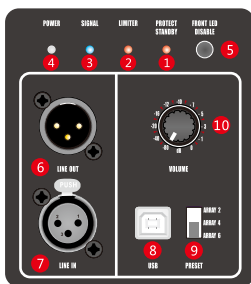
Use with Cardioid B presets

● 3-Cardioid B

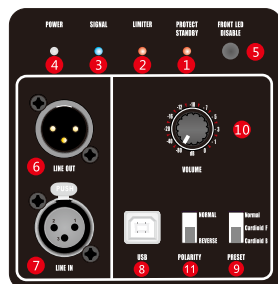
Use with Cardioid F presets

Cardioid F and cardioid B need to be used together to make the system into a cardioid subwoofer application. 3pcs (at least) Artist T115S-DSP speakers flying or ground stack, and one of Artist T115S-DSP speakers should be put upside down to make its front side facing backward and its preset set as Cardioid B. Other speakers can be used normally.

◆ Back panel control and function



Artist T45-DSP



Artist T115S-DSP

① PROTECT LED

PROTECT LED turns on when the protection system is activated. The protection system will activate in the following cases:

The amplifier is overheated;

DC output;

Overload output;

The activation voltage of power supply is too high or too low;

The amplifier in stand-by mode.

② LIMITER LED

Limiter LED turns on when the output limiter circuit is activated. If the output voltage of the power amplifier is over the maximum value, the output limiter circuit will activate to damp the output signal of amplifier.

3 SIGNAL LED

SIGNAL LED turns on when input audio signal.

4 POWER LED

POWER LED turns on when power on.

5 LED switch on the front panel (FRONT LED DISABLE)

LED on the front panel turns off when push the button (This setting is recommended when LED light the front panel is too dazzling).
LED on the front panel turns on when balance the button (Working: LED turns blue; Standby: LED turns red).

6 OUTPUTS jack (LINE OUT)

Male XLR parallel connected with LINE IN. The signal in LINE OUT is equivalent with the signal in LINE IN so the signal level in LINE OUT XLR won't be affected by the volume set up of speaker.

7 INPUTS jack (LINE IN)

Female XLR can provide audio signal input.

8 USB terminal

Debug by factory (it is not open to the user).

9 Preset switch

There are 3 presets in Artist T45-DSP&T115S-DSP System speakers for users to recall for usage in different applications. The users can select the optimal sound effect by pulling the switch.

10 Volume control

Use the VOLUME (sound volume) Knob to control the Gain of input signal in the line input connector **7**. This volume control can adjust the sensitivity, thereby controlling the amount of signal sent to the amplifier and then to the speaker.

11 The polarity of Artist T45-DSP&T115S-DSP System

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 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. For subwoofer system, this is very important. Wrong connection or usage will change the polarity, and lower the system's efficiency.

Artist T115S-DSP 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.

◆ Cable connections

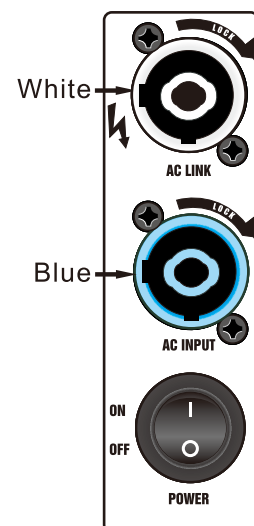
System power

For safety reasons, it is important to follow the proper power connection and disconnection sequence as addressed in this section.

Proper power on/off sequencing can help to prevent unexpected sounds from being produced by the system (pops, clicks, thumps). These sounds are unpleasant and can take away from the over all professionalism of the presentation. Always follow the rule that loudspeakers are "last on, first off".

Connect loop-thru power cables

The loop-thru connectors of Artist T45-DSP&T115S-DSP features a loop-thru power connector system. Using four pcs powerCON® Loop-thru cables, and one pc AC powerCON® Power Cord, you can power up to a maximum of five pcs Artist T45-DSP or T115S-DSP loudspeakers on a single 16 amp/120V (8amp/240V) electrical circuit. Loop-through connectors in color Code (blue = AC INPUT, white = AC LINK), and have different buckles to make sure the connection is correct.



⚡ WARNING: POWER switches of the active speaker will not remove AC mains power from the loop-thru cables. If the AC mains is connected to one pc Artist T45-DSP or T115S-DSP, electrical power is present on all connected loop- thru cables.

1. Make sure that all AC POWER switches are off.
2. Make sure that the AC mains power cord is not connected. AC mains is the last power connection in the sequence.

⚠ WARNING: Do not connect more than five pcs Artist T45-DSP&T115S-DSP loudspeakers together, when using the loop-thru power cables (four pcs loop-thru cables, one pc AC power cord). If you are using loop-thru power cables, make all loop-thru connections before connecting to the AC mains.

3. Fully insert the white powerCON® connector on the loop-thru cable into the white AC LINK connector on the active speaker.
4. Twist the powerCON® connector clockwise until it locks in place.
5. Fully insert the blue powerCON® connector into the blue AC INPUT connector on the next active speaker to be powered.
6. Twist the powerCON® connector clockwise until it locks in place.
7. Repeat until all of the loudspeakers (up to five pcs loudspeakers, using four pcs loop-thru cables) in the array are properly connected.
8. Fully insert the blue powerCON® connector on the AC power cord into the blue AC INPUT connector on the first active speaker in the chain.
9. Twist the powerCON® cable connector clockwise until it locks in place.
10. Plug the other end of the power cable into the appropriate AC mains power source.
11. Now you can turn on the AC power switches by using the Power-On procedure of this document.

Power-on sequence

1. Bring the output level control of the mixer (or other audio source) feeding your loudspeakers to its minimum position.
2. Turn on all source devices (CD players, mixers, instruments).
3. Turn the power switch up to “1” to apply AC mains power to the first powered loudspeaker in the signal chain.
4. When the amplifier is turned on, the white POWER indicator LED/the blue SIGNAL Indicator LED/the red LIMITER indicator LED, and the red PROTECT indicator LED on the amplifier panel, illuminate. After a few seconds the red PROTECT indicator, the blue SIGNAL and the red LIMITER indicator extinguish, and the white POWER indicator LED illuminates.
5. Turn on the rest of the Artist T45-DSP&T115S-DSP loudspeakers in the order in which they receive audio signal-first to last.
6. The level controls on your mixer may now be brought up.

Power-off sequence

1. Bring the output level control of the mixer (or other audio source) feeding your loudspeakers to its minimum position.
2. Turn the power switch down to “0”, turn off Artist T45-DSP&T115S-DSP , starting with the last loudspeaker in the signal chain.
3. Turn off the rest of the Artist T45-DSP&T115S-DSP loudspeakers in reverse of the order in which they receive audio signal-last to first.
4. Turn off all source devices.

AC Mains Disconnection

1. Follow the “Power-off Sequence” and turn the AC power switches to the off position.
2. Unplug the power cable from the AC mains.
3. Disconnect all AC patch cord by grasping the powerCON® cable connector, sliding the latch button away from the amplifier, twisting the powerCON® connector counterclockwise, and pulling straight out from the amplifier.
4. Remove the AC mains cord by grasping the powerCON® cable connector, pressing down on the latch button, twisting the cable connector counterclockwise, and pulling straight out from the powerCON® cabinet connector.

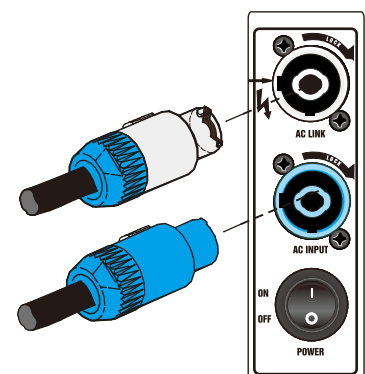
Standby Mode

All Artist T45-DSP&T115S-DSP System loudspeakers are equipped with an automatic standby function to conserve energy when not in use.

If no audio signal input for 15minutes, the system goes into STANDBY mode, and the signal indicator on Speaker Will turn from blue (operational mode) to red (standby mode).

When the equipment in STANDBY mode, if there with audio signal input, the signal indicator on Speaker will turn from red (standby mode) to blue (operational mode).

When the amplifiers are in STANDBY mode, a small amount of current continues flowing, for waking the amplifier up. It takes about 2 seconds to go from standby to full operation without making any sound.



⚠ NOTE: The Artist T45-DSP&T115S-DSP employs a universal power supply, capable of operating the system with input AC power voltages ranging from 110V~130V/220V~240V (50/60Hz). Use only the power cord applicable to your location.

◆ System suspension guidance



Warning 1: Before suspending, you must confirm that the suspending accessories and hardware are not overloaded. The maximum suspending cabinet for T45-DSP&T115S-DSP system is 16pcs.

Warning 2: Make sure that the of the hardware and the cabinet of two speakers are properly aligned. If they are not aligned, it means that the pins are not properly engaged. If used in this way, the hardware and speakers may separate which may cause damage to hardware and personal injury

Warning 3: While hanging, the hardware and the cabinets must be properly supported.

Warning 4: No matter what the situation is, whether speaker to connect with speaker or speaker connect to flying frame, all the connection way will be from the lower hardware to upper hardware.

Connection between speaker and hanging frame:

Before hanging, the front and back connecting rods of Artist T45-DSP&T115S-DSP are locked. As the picture shows on page 9: Rotate the connecting rods on the speaker upward, you must make sure the back connecting rods is aligned with the holes on the hanging frame, then lock it with the pin. Repeat above process until all the pins on speakers are firmly locked. Then you can hang up the line array

Warning: Please make sure all the pins on the speakers are firmly locked with the hanging frame. Otherwise, If it is not locked properly, the components may separate, causing damage to the hardware and personal injury.

Suspension of the line array

Notice: Before hanging up the line array, please consult professional construction or mechanical engineers with installation license, asking them to check, test or approve all the additional equipments on the building or construction. And you should ask the licensed professional assembling staffs to locate, hang up the line array to corresponding places.

While connect the flying belt, D shackle to the hanging frame, you will get different inclination angles if you choose different holes on the frame to connect D shackle.

Separation of the line array:

Before separate the speakers, all the side hardware of the speakers must be properly supported to reduce the pressure from the speaker cabinet, so the speakers will be separated properly. Move the front/rear connecting rods down to retract them into the speaker, and then use the pin to lock. Repeat this step on for all the pins on the other side of the speaker until all the speaker and hardware are separated safely.

Suspension process



WARNING: Read and follow these instructions carefully. If the loudspeakers are not suspended properly, they could fall causing personal injury and damage to the equipment.

Rules for suspension

- Consult a professional mechanical or structural engineer licensed in the jurisdiction of the sound system installation, to review, verify, and approve all equipment that are going to be attached to the building or structure.
- Employ the services of a certified, professional rigger for hoisting, positioning and attaching the equipment to the supporting structure.
- Correct use of all suspension hardware and components is imperative in sound system suspension and deployment.
- Always calculate suspended loads before lifting to make sure suspension components and hardware are used within their respective load limits.
- Check local codes and regulations to fully understand the requirements for suspended loads in the venue in which you will suspend the equipment.
- Use the specific flybar which was designed to suspend the Artist T45-DSP&T115S-DSP system Array.
- Be sure of the integrity of all structure intended to support suspended loads. Hidden structural members can have hidden structural weakness.
- Before lifting, always inspect all components (pins, suspension brackets, bolts, nuts, fly belt, stainless steel shackle etc.) for cracks, wear, deformation, corrosion, missing, loose, or damaged parts that could reduce the strength of the assembly. Discard any worn, defective, or suspect parts and replace them with new appropriately load-rated parts.

When a load is either moved or stopped, its static weight is magnified. Sudden movements can magnify the static weight several times. This magnification of static weight is called "shock loading". Shock loading poses a danger to equipment and workers. The effects of shock loading can be instantaneous, or may remain undetected unless the equipment is visually damaged. Proper preparation for shock loading requires careful planning and knowledge of equipment, suspension, and lifting practices.

Shock loading of equipment and structures is usually confirmed to lifting and installation, but natural forces (winds, earthquakes, and so on) can impose shock loads several times the static load. Because of this, structures and suspension equipment must be capable of supporting several times the weight of the suspended equipment.

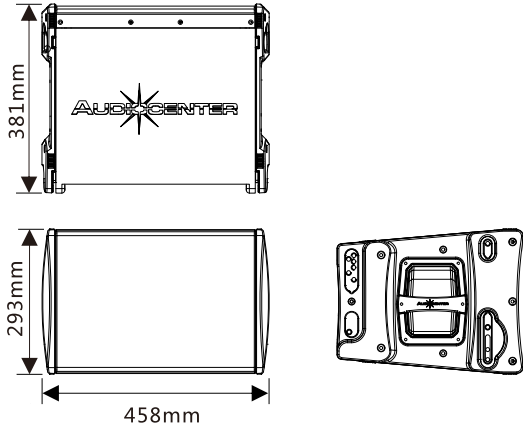
Maximum suspended load

The Artist T45-DSP&T115S-DSP components are safe engineered design.

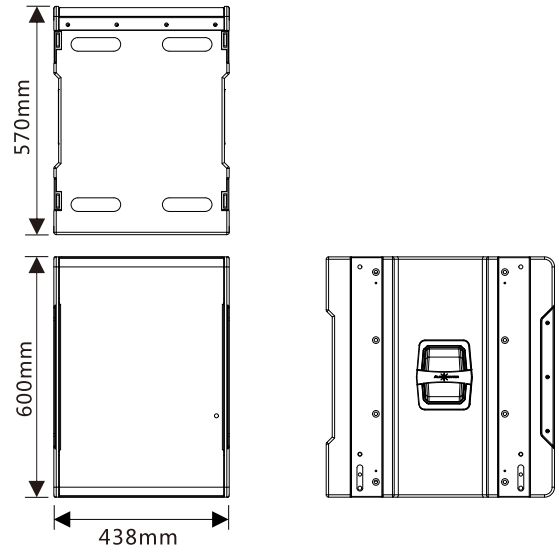
The mechanical parts for Artist T45-DSP&T115S-DSP array system use the finest steel, completely consider of the safety. Can fly 16 pcs of Artist T45-DSP&T115S-DSP loudspeakers per side and this is make sure safe when use (Any questions, please contact the service center or agency or dealer of Audiocenter at your area)

◆ Dimensions and product application

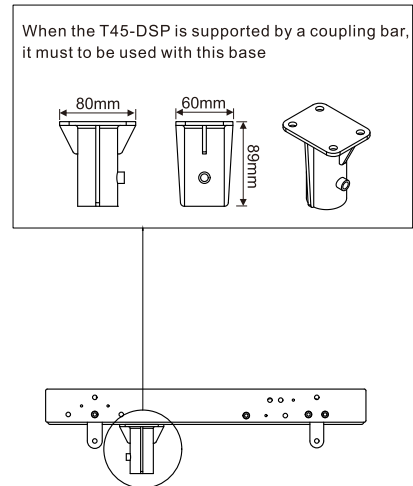
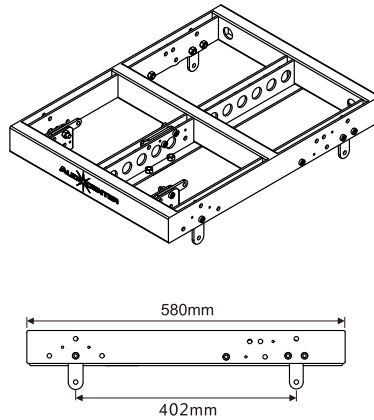
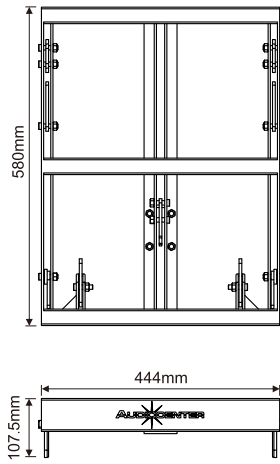
Artist T45-DSP



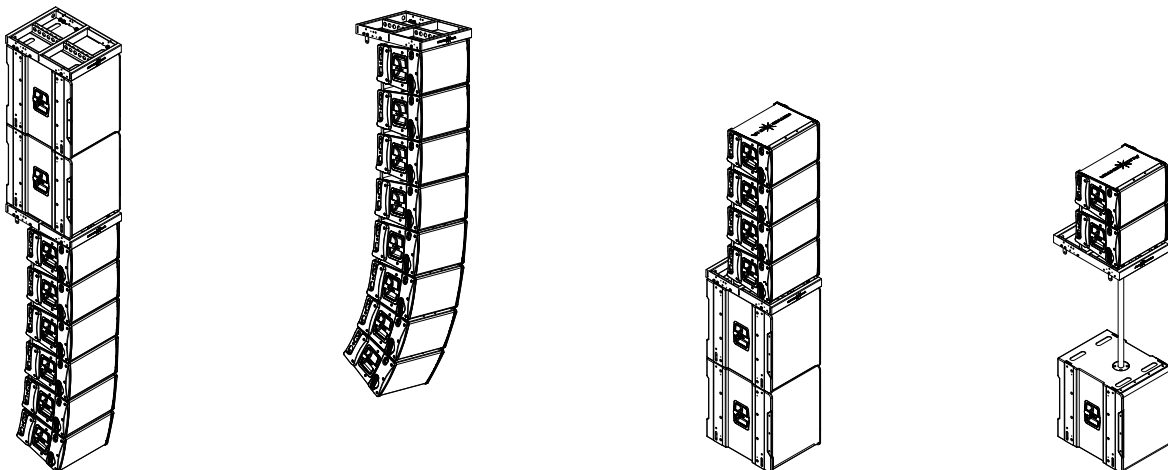
Artist T115S-DSP



Hanging frame of Artist T45-DSP&T115S-DSP



Application samples



◆ Specifications

SPECIFICATIONS		Artist T45-DSP	Artist T115S-DSP
Frequency Response (-6dB anechoic chamber)		63Hz-20KHz	35Hz-250Hz
Horizontal Coverage Angle (Symmetrical)		120°	/
Vertical Coverage Angle (Symmetrical)		Depend on the amount of the speaker and curvature of the line array	/
Maximum Calculated SPL/1M	Continuous	130dB	130dB
	Program	133dB	133dB
	Peak	136dB	136dB
Drivers	HF	Customized Beyma ferrite driver, 1.0" voice coil, 1" exit	/
	LF	4 pcs LF 5" Drivers	Customized Audiocenter ferrite driver, 4" voice coil
Crossover and Slope		Controlled by DSP	
Signal Input / Signal Output		Female XLR input, male XLR output	
Power Input / Power Output		Powercon connector	
Working Voltage		100-130V 60Hz / 220-240V 50Hz	

DSP

Processor	96KHz signal sampling frequency, 56bit precision	
Presets	ARRAY2, ARRAY4, ARRAY6	Normal, Cardioid F, Cardioid B

AMPLIFIER

Amplifier	Class D
Peak Power	2000W
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	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 excellent wood	
Optional Accessories	Flightcase with 100mm wheels / Durable rain bag / D shackle / Fly belt / Flying frame / Coupling bar / Dolly / Wheels	
Dimensions(W×H×D)	458x293x381mm	438x600x570mm
Net Weight	18.0Kg	43.0Kg

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



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