

E11EVEN

11SOUND BY DAS AUDIO

User's Manual

ES-10 / ES-26 / ES-112 / ES-158 / ES-212.95 / ES-212.64

ES-212 / ES-215 / ES-218 / ES-221

Deliver the Nightclub Sound Experience we all Deserve

www.11sound.com



Before operating the device, please read the "Safety precautions" section of this manual.

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Safety Precautions. Passive loudspeaker enclosures.

Keep these instructions. Heed all warnings. Follow all instructions.



The exclamation point inside an equilateral triangle indicates the existence of internal components whose substitution may affect safety. The specifications can be found on the rear label of the product.



The double square indicates Class II device.

The appliance should be flown only from the rigging points and by qualified personnel.

Do not expose this device to rain or moisture. Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit. IP-20 equipment.



This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

Working temperature ranges from 15°C to 45°C with a relative humidity of 95%.

The outer wiring connected to the device requires installation by an instructed person.

Note that the two Speakon input connectors are wired in parallel to provide easy parallel connection of several enclosures.



Do not place loudspeakers in proximity to devices sensitive to magnetic fields such as television monitors or data storage magnetic material.

No user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

Clean only with a dry cloth. Do not use any solvent based cleaners.

WARRANTY

All our products are warrantied against any manufacturing defect for a period of 36 months from date of purchase. The warranty excludes damage from incorrect use of the product.

All warranty repairs must be exclusively undertaken by the factory or any of its authorised service centers.

To claim a warranty repair, do not open or intend to repair the product.

All the details related to the warranty (such as extended warranties) can be found in the SUPPORT section on our website: **www.11sound.com**



DECLARATION OF CONFORMITY

DAS Audio Group, S.L.

C/ Islas Baleares, 24 - 46988 - Pol. Fuente del Jarro - Valencia. España
(Spain) as E11EVEN Sound System´s supplier:

Declares that:

ES-10, ES-26, ES-112, ES-158, ES-212.95, ES-212.64, ES-212, ES-215, ES-218, ES-221.

Abide by essential objectives relating Directives:

- Low Voltage 2014/35/UE
- RoHS 2011/65/UE
- RAEE (WEEE) 2012/19/UE

In accordance with Harmonized European Norms:

- EN 60065:2014.- Audio, video and similar electronic apparatus. Safety requirements.
- EN 50581:2012.- Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

INTRODUCTION

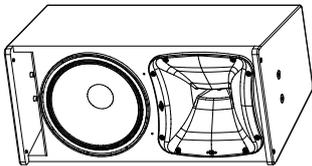
ETIEVEN MIAMI and **DAS Audio** partnered to launch: **ETIEVEN Sound by DAS Audio** to offer clubs around the world a new way of understanding sound and entertainment. This new brand is created to bring sound back to the forefront of the nightclub sensory experience.

Bring sound to dining rooms, dance floors, VIP lounges, rooftop bars and so on; Install the right system and distribution guaranteeing that the audience's acoustic experience.

Only certified installers or supervised projects will be allowed to install the systems on any venue. For more information, visit our website: www.11sound.com

SYSTEMS

ES-10 - P/N 10433176



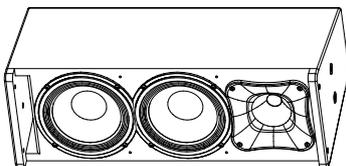
KEY FEATURES

- 2-way Passive Point Source
- Single 10" loudspeaker
- 1" Compression Driver
- Threaded fixing points for wall mounts

The ES-10 is a spectacular 2-way point source system, which employs a single 10P (3" VC) woofer for low frequency reproduction and together with the M-60N compression driver offers an outstanding intelligibility. A rotatable horn allows precise coverage and control with its 110° x 50° in vertical or horizontal (50° x 100°) position.

The ES-10 is an ultra-compact system designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

ES-26 - P/N 10433175



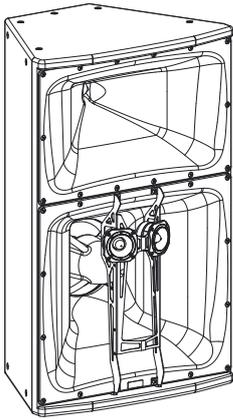
KEY FEATURES

- Twin 6" loudspeakers
- M-34 compression driver
- Vertical or horizontal positioning
- Threaded fixing points for wall mounts

The ES-26 employs twin 6P (2" VC) woofers for low frequency reproduction and an M-34 compression driver, which provides brilliant highs. The symmetrical horn (80° x 80°) offers precise coverage and control allowing the cabinets to be installed in the horizontal and vertical position.

The ES-26 is a compact system designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

ES-112- P/N 10433178



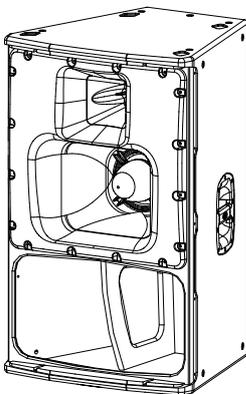
KEY FEATURES

- 12" horn loaded Midrange
- M-75N neodymium Compression driver
- Twin bullet tweeters for very high frequency
- Specific hardware for rigging and stacking

The ES-112 aims large venues. It is a 3-way system designed for top-level clubs. The front of the system is composed by two large format fiberglass horns comprising the mid and high frequency sections and the twin bullet tweeters provide the ultra-high frequency reproduction required for club systems. The black chrome color of the horns together with the mate silver tweeters, make it look as impressive as it sounds.

Powerful, clarity and uniqueness define the ES-112.

ES-158 - P/N 10433177



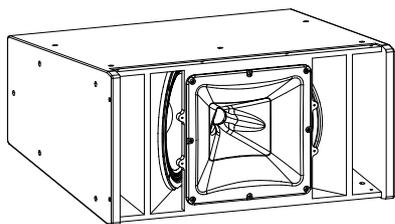
KEY FEATURES

- 3-way full-range Passive Point Source
- 1 x 15G NR horn loaded bass loudspeaker
- 1 x 8AN" horn loaded mid-range loudspeaker
- M-75N neodymium compression driver
- Selectable biamp/triamp operating modes
- Tight 40° x 30° coverage angles
- Rotatable horn for vertical or horizontal positioning

The ES-158 is a 3-way, full range point source system, designed to provide a powerful standalone solution. A horn loaded 15" bass and an 8" mid-range, in a bullet type-loading device, handle the low to mid-range frequencies. The M 75N neodymium compression driver provides exceptional high frequency reproduction. The ES-158 can be used in either the vertical or the horizontal position thanks to its rotatable mid high horn assembly. Depending on the installation needs, it is possible to select between a biamp or triamp operation mode.

The systems are designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric however, if the powerful aesthetics of the system allows it to be deployed with or without the grill.

ES-212.64 - P/N 10433183



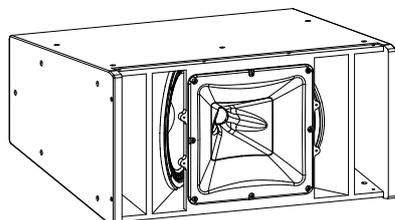
KEY FEATURES

- Two-way long-throw system
- DX finish (Fiberglass) for direct exposure
- Horn loaded 2 X 12" low frequency loudspeaker
- M-78N neodymium compression driver
- Selectable passive/biamped operating modes
- 60° x 40° coverage - Rotatable horns
- Venues with low ceiling heights

The ES-212.64 is a high efficiency and low distortion full range (down to 63Hz) system designed for medium to large-scale installations, specifically for venues with low ceiling heights. The components of the ES-212.64 are symmetrically arranged to generate an uniform dispersion pattern, using 2 x 12" LF drivers and 1 x M78N (3"VCD) the ES-212.64 offers tightly controlled coverage patterns (60° x 40°) and high output capabilities being usable individually, or in multiple unit arrays.

The cabinet are designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

ES-212.95 - P/N 10433184



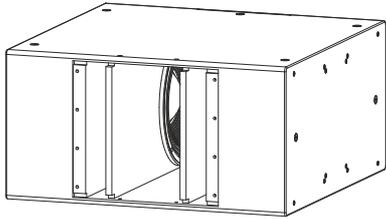
KEY FEATURES

- Two-way long-throw system
- DX finish (Fiberglass) for direct exposure
- Horn loaded 2 X 12" low frequency loudspeaker
- M-78N neodymium compression driver
- Selectable passive/biamped operating modes
- 90° x 50° coverage - Rotatable horns
- Venues with low ceiling heights

The ES-212.95 is a high efficiency and low distortion full range (down to 63Hz) system designed for medium to large-scale installations, specifically for venues with low ceiling heights. The components of the ES-212.64 are symmetrically arranged to generate an uniform dispersion pattern, using 2 x 12" LF drivers and 1 x M78N (3"VCD) the ES-212.95 offers tightly controlled coverage patterns (90° x 50°) and high output capabilities being usable individually, or in multiple unit arrays.

The cabinet are designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

ES-212 - P/N 10433180



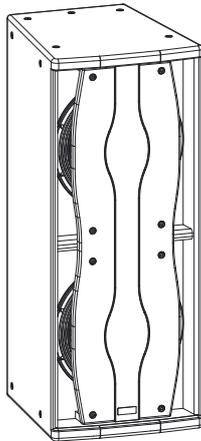
KEY FEATURES

- Compact bassreflex subwoofer system
- 1600 Wprogram power handling
- 2 x 12P low frequency loudspeakers, 3"VCD
- For use in biamplified systems

The ES-212 is a compact bass-reflex subwoofer system incorporating two 12P low frequency with 3" voice coils. Designed to be used in bi-amplified systems, the ES-212 has a power handling capacity of 1600 Wprogram and is capable of maximum peak SPL of a 132 dB. The compact ES-212 enclosure design is ideal for smaller clubs or auxiliary club floors when used in combination with E11EVEN Sound satellite systems such as the ES-10.

The cabinet are designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

ES-215 - P/N 10433179



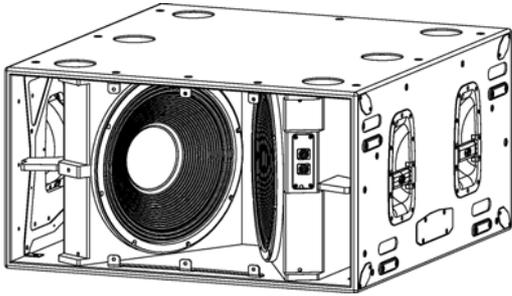
KEY FEATURES

- Twin 15" neodymium loudspeakers
- Elegant cabinet design
- Bandpass configuration
- Specific hardware for rigging and stacking

The ES-215 is a bass-mid system comprising twin 15" neodymium loudspeakers mounted in a band-pass enclosure. The ES-215 provides the punch and definition needed for today's dance music. The ES-215 can be stacked vertically or mounted on either side of the ES-112 for flown horizontal arrays using the optional stacking and rigging hardware.

The cabinet are designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

ES-218 - P/N 10433182



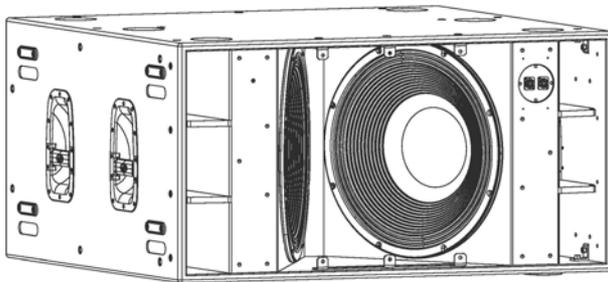
KEY FEATURES

- High performance subwoofer system
- Two new 18UXN long excursion loudspeakers
- Front loaded crossfire configuration
- Solid Birch plywood construction

The ES-218 is a bass-reflex subwoofer system that makes use of two newly developed 18UXN transducers. The loudspeakers incorporate state-of-the-art features such as a 4" sandwich split winding voice coil, a remarkable 52 mm peak-to-peak excursion, and a powerful FEA (Finite Element Analysis) optimized neodymium magnet assembly. Thanks to the double silicon spider, the 18UXN controls the moving mass with high linearity. An aluminum demodulating ring benefits lower distortion and the effective ventilation of the voice coil gap provides for a high thermal rating, and reduced power compression. The ES-218 subwoofer system has program power handling capacity of 4400 Wprogram and is capable of producing a maximum peak SPL of 143 dB.

The cabinet are designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

ES-221 - P/N 10433181



KEY FEATURES

- Twin 21" high power loudspeakers
- 6" voice coils for high power handling
- Crossfire enclosure configuration
- Reinforced enclosure design
- Thunderous low frequency reproduction

The ES-221 is a twin 21" subwoofer system designed to provide high levels of low frequency energy. The loudspeakers, equipped with 6" voice coils, highly effective heat dissipation schemes, and an extremely robust mechanical design are ideal for dance club applications where long hours of demanding use is the norm. The reinforced enclosure design and crossfire configuration are key in providing stunning, high-intensity bass.

The cabinet are designed using top grade birch plywood and protected with an impact resistant ISO-flex paint. The front elements of the cabinet are protected using a solid metal grill assisted by an acoustically transparent fabric.

CONFIGURATIONS

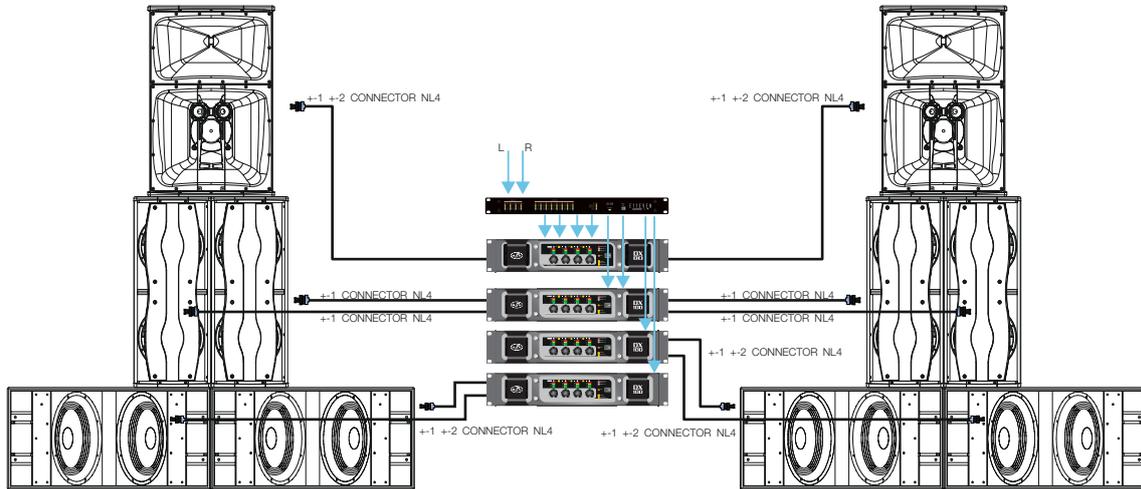
There are different possible configurations depending on the number of amplifier and processing channels used (systems as ES-112, 212.95, 212.64, 158 can be bi-amped or passive), the subwoofers used and the installation of the systems (stacked vs rigged).

System Type	Subwoofer model	Stacked or rigged units	System Type	Processing channels
ES Large System Stacked	ES-221	Stacked	ES-112  ES-215  ES-221 	4 way Sub, Low, Mid, High
ES Large System Flown	ES-221	Rigged	ES-112  ES-215  ES-221 	4 way Sub, Low, Mid, High
ES Large System Flown	ES-218	Rigged	ES-112  ES-215  ES-218 	4 way Sub, Low, Mid, High
ES Medium System Flown	ES-221	Rigged	ES-158  ES-221 	4 way Sub, Low, Mid, High
ES Medium System Flown	ES-221	Rigged	ES-158  ES-221 	3 way Sub, Low, Mid-High
ES Medium System Flown	ES-218	Rigged	ES-158  ES-218 	4 way Sub, Low, Mid, High
ES Medium System Flown	ES-218	Rigged	ES-158  ES-218 	3 way Sub, Low, Mid-High
ES Distributed High SPL system	ES-218	Rigged	ES-212.xx  ES-218 	3 way Sub, Low, High
ES Distributed High SPL system	ES-218	Rigged	ES-212.xx  ES-218 	2 way Sub, Low-High
ES Distributed fill system	ES-218	Rigged	ES-10  ES-218 	2 way Sub, Low-High
ES Distributed fill system	ES-212	Rigged	ES-10  ES-212 	2 way Sub, Low-High
ES Distributed fill system	ES-212	Rigged	ES-26  ES-212 	2 way Sub, Low-High

CONFIGURATIONS

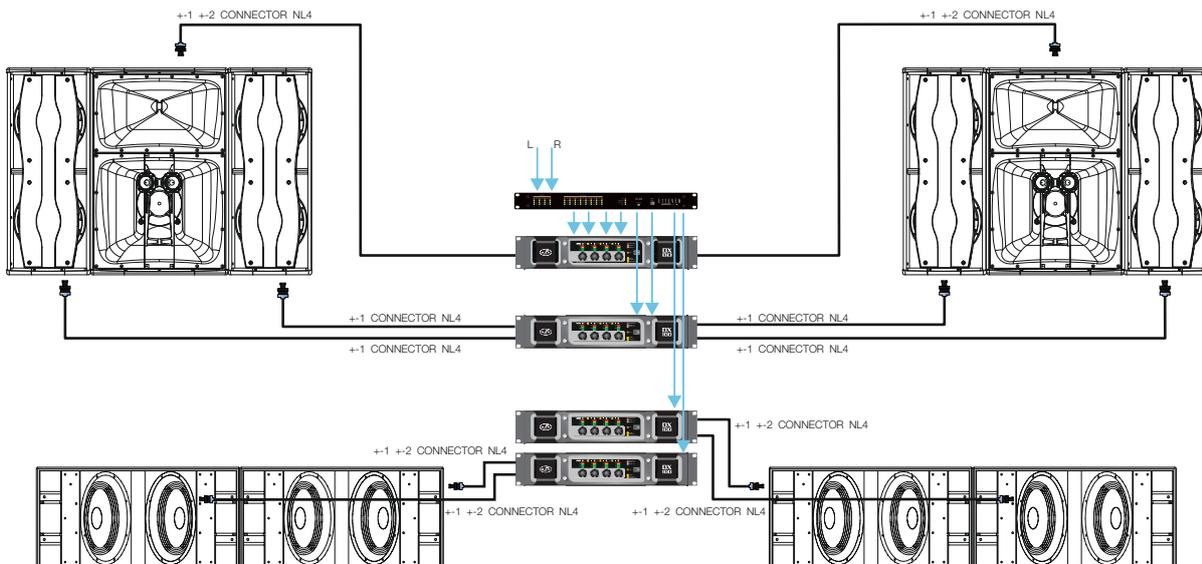
LARGE SIZE SYSTEM STACKED - 4 WAY ACTIVE

Product in use: 4 x ES-221 1 x iO-48
 4 x ES-215 1 x DX-80
 2 x ES-112 3 x DX-100



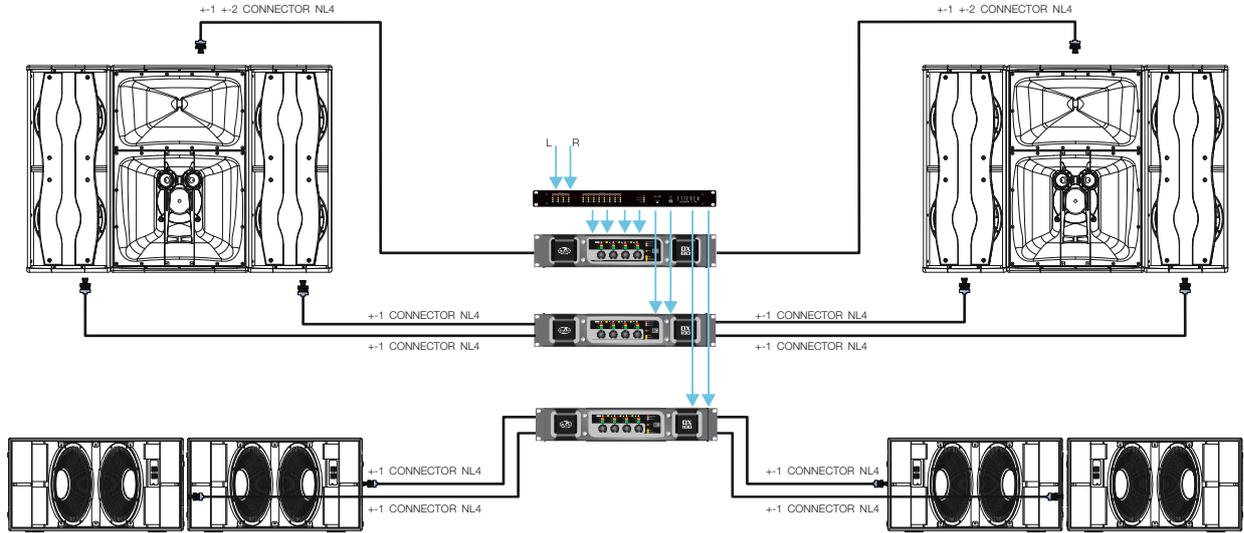
LARGE SIZE SYSTEM FLOWN - 4 WAY ACTIVE

Product in use: 4 x ES-221 1 x iO-48
 4 x ES-215 1 x DX-80
 2 x ES-112 3 x DX-100



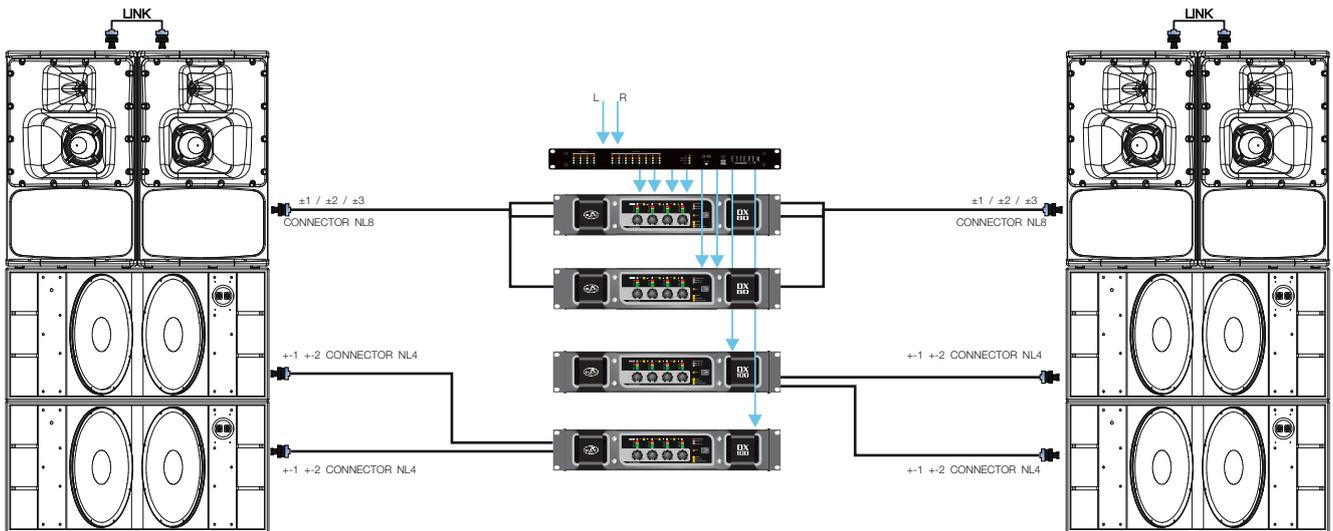
LARGE SIZE SYSTEM FLOWN - 4 WAY ACTIVE

Product in use: 4 x ES-218 1 x iO-48
 4 x ES-215 1 x DX-80
 2 x ES-112 3 x DX-100



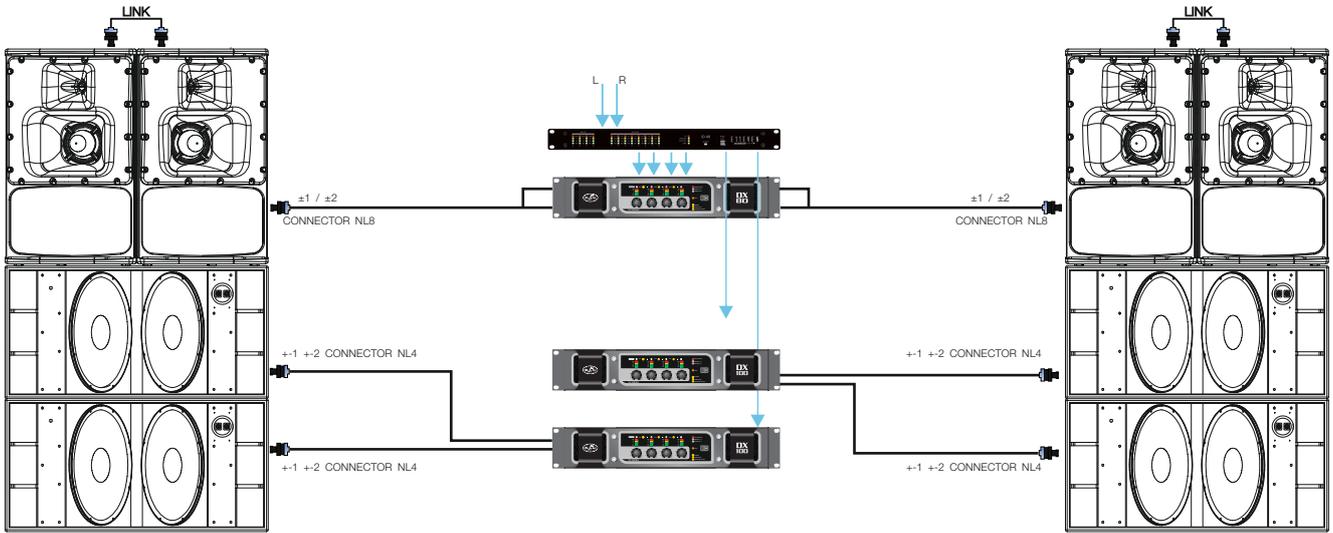
MEDIUM SIZE SYSTEM STACKED - 4 WAY ACTIVE

Product in use: 4 x ES-221 1 x iO-48
 4 x ES-158 2 x DX-80
 2 x DX-100



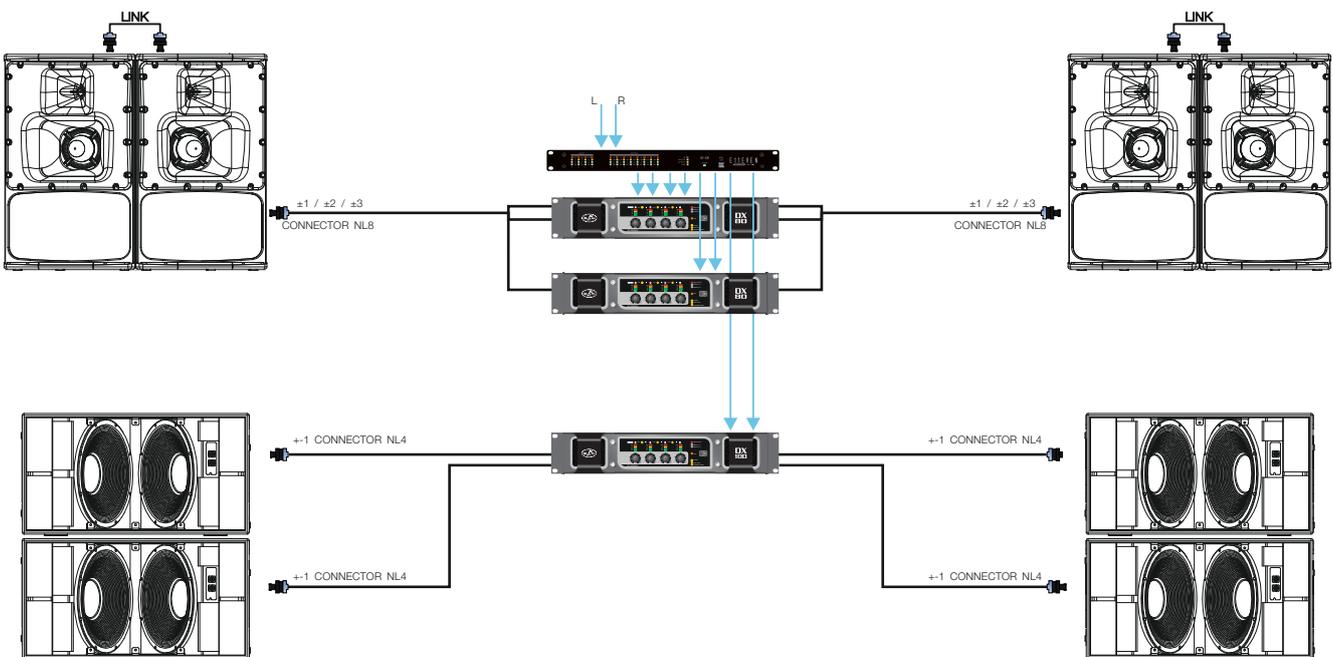
MEDIUM SIZE SYSTEM STACKED - 3 WAY ACTIVE

Product in use: 4 x ES-221 1 x iO-48
 4 x ES-158 1 x DX-80
 2 x DX-100



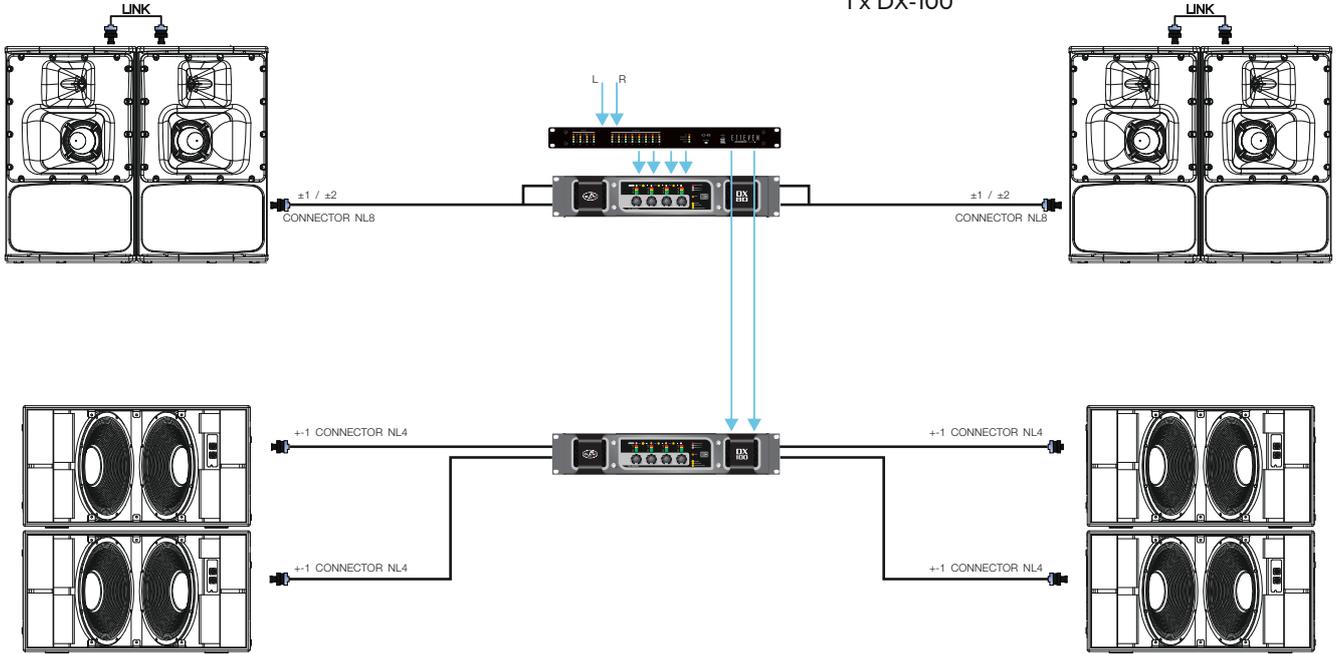
MEDIUM SIZE SYSTEM STACKED - 4 WAY ACTIVE

Product in use: 4 x ES-221 1 x iO-48
 4 x ES-158 2 x DX-80
 1 x DX-100



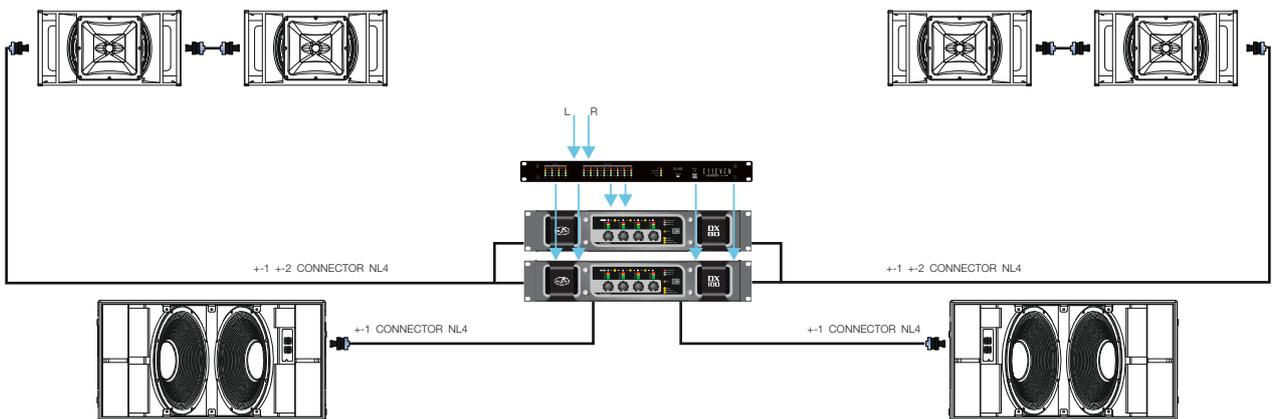
MEDIUM SIZE SYSTEM FLOWN - 3 WAY ACTIVE

Product in use: 4 x ES-218 1 x iO-48
 4 x ES-158 1 x DX-80
 1 x DX-100



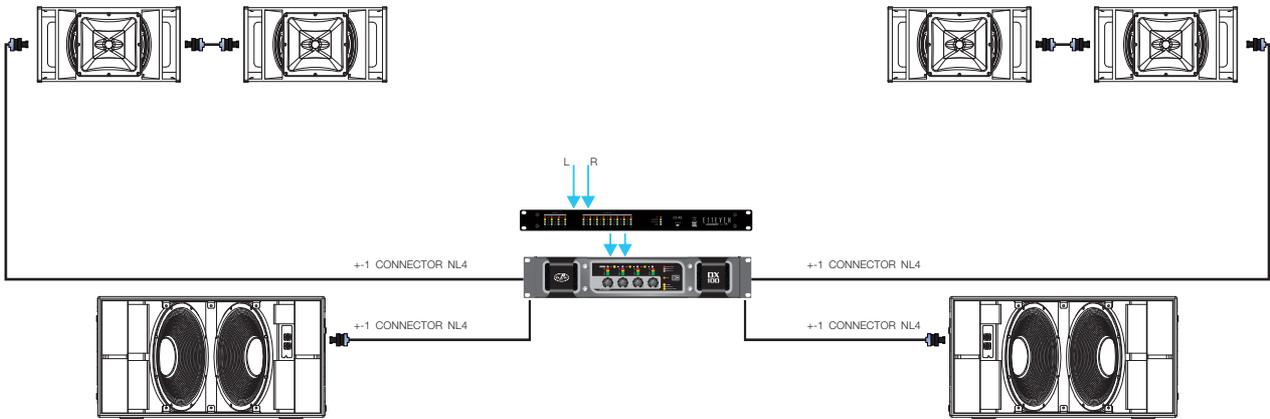
DISTRIBUTED HIGH SPL - 3 WAY ACTIVE

Product in use: 2 x ES-218 1 x iO-48
 4 x ES-212.XX 1 x DX-80
 1 x DX-100



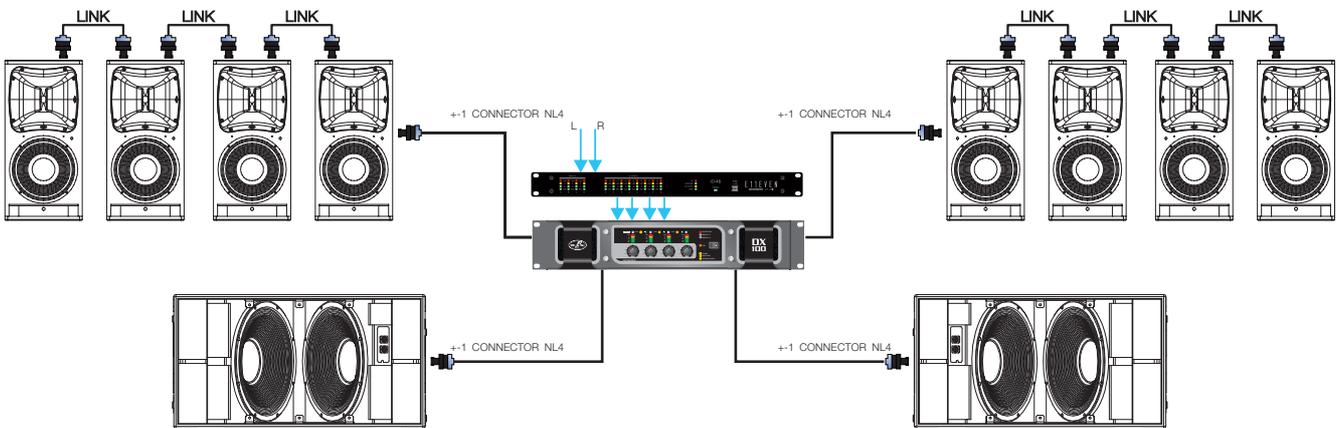
DISTRIBUTED HIGH SPL - 2 WAY ACTIVE

Product in use: 2 x ES-218 1 x iO-48
 4 x ES-212.XX 1 x DX-100



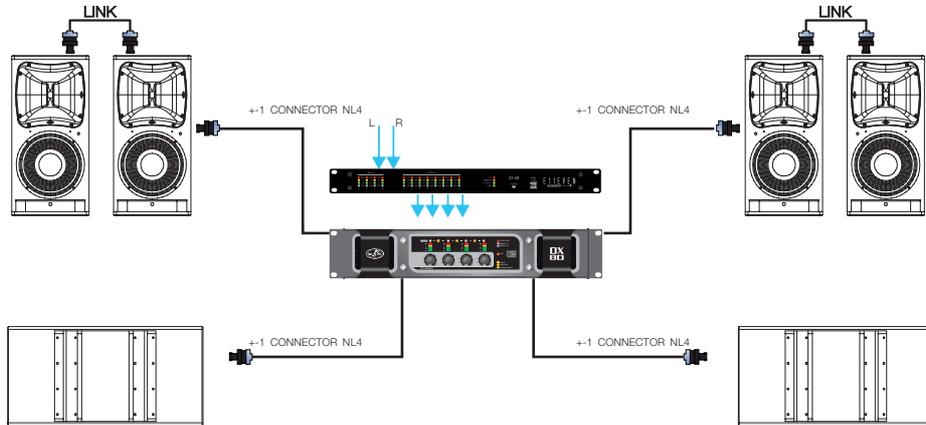
DISTRIBUTED FILL - 2 WAY ACTIVE

Product in use: 2 x ES-218 1 x iO-48
 8 x ES-10 1 x DX-100



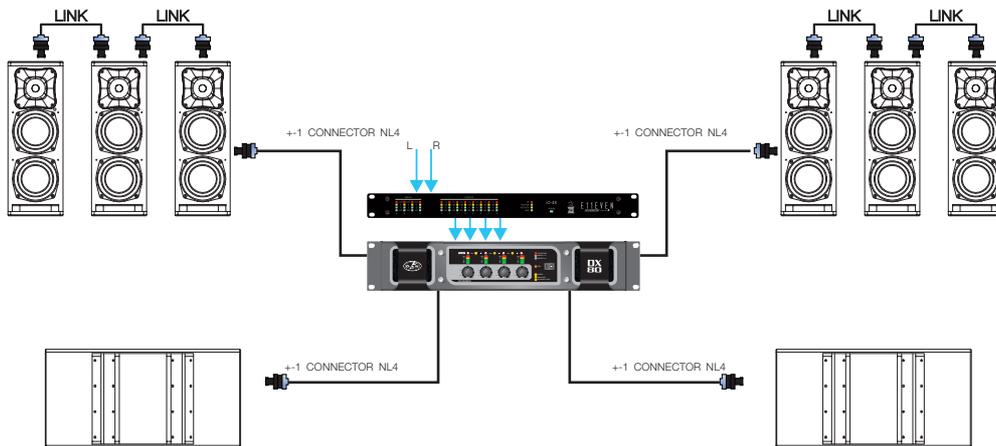
DISTRIBUTED FILL - 2 WAY ACTIVE

Product in use: 2 x ES-212 1 x iO-48
 4 x ES-10 1 x DX-80



DISTRIBUTED FILL - 2 WAY ACTIVE

Product in use: 2 x ES-212 1 x iO-48
 6 x ES-26 1 x DX-80



SPECIFICATIONS

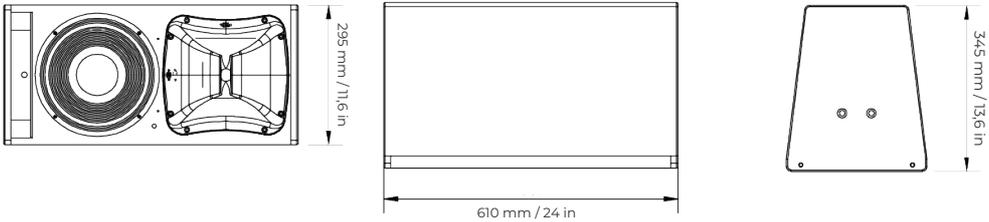
Performance	ES-10	ES-26	ES-112	ES-158	ES-212.64	ES-212.95
Frequency Range (-10 dB)	55 Hz – 20 kHz	60 Hz – 20 kHz	80 Hz – 20 kHz	70 Hz – 20 kHz	63 Hz – 18 kHz	63 Hz – 18 kHz
Horizontal Coverage (-6 dB)	110°	80°	90°	40°	60°	90°
Vertical Coverage	50°	80°	50°	30°	40°	50°
Nominal Impedance	8 ohms	16 ohms	8 ohms	8 ohms	8 ohms	8 ohms
RMS Power Handling	400 W	400 W	500 W	HF: 350 W LF: 700W	800 W	800 W
Peak Power Handling	1600 W	1600 W	2000 W	HF: 1400 W LF: 2800 W	3200 W	3200 W
On-axis Sensitivity 1W/1 m	96 dB SPL	93 dB SPL	109 dB SPL	106 dB SPL	106 dB	105 dB
Maximum Peak SPL at 1 m	128 dB	125 dB	142 dB	140 dB	141 dB	140 dB
Recommended Amplifier	Passive DX-80	Passive DX-80	Passive DX-80 BI-AMP LF: DX-80 HF: DX-80	BI-AMP LF: DX-80 HF: DX-80 TRI-AMP LF: DX-80 MF: DX-80 HF: DX-80	Passive DX-100 BI AMP LF: DX-100 HF: DX-80	Passive DX-100 BI AMP LF: DX-100 HF: DX-80
Recommended Processor	IO-48	IO-48	IO-48	IO-48	IO-48	IO-48
Connectors						
Audio Input Connector	1 x speakON NL4	1 x speakON NL4	2 x speakON NL4	1 x speakON NL8	1 x speakON NL4 / Barrier Strip	1 x speakON NL4 / Barrier Strip
Audio Output Connector	1 x speakON NL4	1 x speakON NL4	1 x speakON NL4	1 x speakON NL8	1 x speakON NL4 / Barrier Strip	1 x speakON NL4 / Barrier Strip
Enclosure						
Enclosure Construction	Birch Plywood	Birch Plywood	Birch Plywood	Birch Plywood	Birch Plywood	Birch Plywood
Enclosure Geometry	Trapezoidal	Trapezoidal	Trapezoidal	Trapezoidal	Trapezoidal	Trapezoidal
Rigging	M10 Rigging Points	M10 Rigging Points	M10 Rigging Points	M10 Rigging Points	M10 Rigging Points	M10 Rigging Points
Finish	ISO-flex Paint	ISO-flex Paint	ISO-flex Paint	ISO-flex Paint	ISO-flex Paint	ISO-flex Paint
Color	Black	Black	Black	Black	Black	Black
Dimensions (H x W x D)	295 x 610 x 345 mm 11,6 x 24 x 13,6 in	195 x 550 x 260 mm 7,7 x 21,7 x 10,2 in	1.125 x 745 x 525 mm 44,3 x 29,3 x 20,7 in	985 x 610 x 590 mm 38,8 x 24,0 x 23,2 in	370 x 710 x 690 mm 14,6 x 28,0 x 27,2 in	370 x 710 x 690 mm 14,6 x 28,0 x 27,2 in
Net Weight	19,0 kg (41,9 lb)	11 kg (24,3 lb)	58,0 kg (127,9 lb)	76,0 kg (167,6 lb)	39,0 kg (85,8 lb)	39,0 kg (85,8 lb)
Components						
LF Driver	10P	6P	12HQN	15GNR	GM-12LQN4	GM-12LQN4
MF		-	-	8AN	-	-
HF Driver	M-60N	M-34	M-75N	M-75N	M-78N	M-78N
UHF DRIVER	-	-	TWT-SF	-	-	-
Horn/Waveguide	BC-115	BC-88	BCM-9032	BD-843	BCH-6040-7037	BCH-9050-7037

SPECIFICATIONS

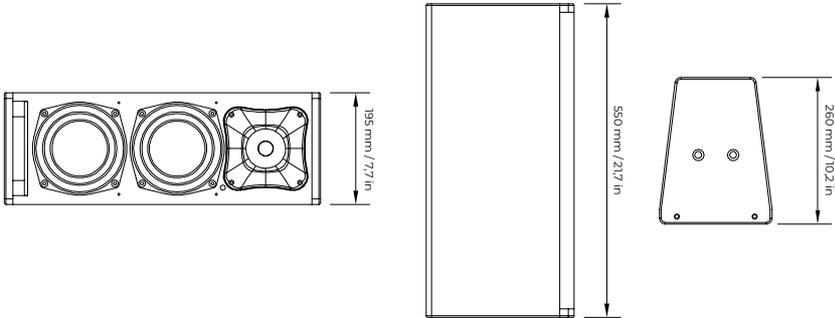
Performance	ES- 212	ES-215	ES-218	ES-221
Frequency Range (-10 dB)	37 Hz – 300 Hz	60 Hz – 250 Hz	28 Hz – 125 Hz	28 Hz – 125 Hz
Nominal Impedance	4 ohms	4 ohms	4 ohms	2 x 4 ohms
RMS Power Handling	800 W	1400 W	2200 W	2 x 2000 W
Peak Power Handling	3200 W	5600 W	8800 W	2 x 8000W
On-axis Sensitivity 1W/1 m	98 dB SPL	102 dB SPL	103 dB SPL	104 dB SPL
Maximum Peak SPL at 1 m	132 dB	134 dB	143 dB	145 dB
Recommended Amplifier	DX-80	DX-100	DX-100	DX-100
Recommended Processor	IO-48	IO-48	IO-48	IO-48
Connectors				
Audio Input Connector	1 x speakON NL4	1 x speakON NL4	1 x speakON NL4	1 x speakON NL4
Audio Output Connector	1 x speakON NL4	1 x speakON NL4	1 x speakON NL4	1 x speakON NL4
Enclosure				
Enclosure Construction	Birch Plywood	Birch Plywood	Birch Plywood	Birch Plywood
Enclosure Geometry	Rectangular	Rectangular	Rectangular	Rectangular
Rigging	M10 Rigging Points	M10 Rigging Points	M10 Rigging Points	M10 Rigging Points
Finish	ISO-flex Paint	ISO-flex Paint	ISO-flex Paint	ISO-flex Paint
Color	Black	Black	Black	Black
Dimensions (H x W x D)	370 x 710 x 690 mm 14,6 x 28,0 x 27,2 in	1.135 x 455 x 535 mm 44,7 x 17,9 x 21,1 in	515 x 955 x 1.005 mm 20,3 x 37,6 x 39,6 in	615 x 1.195 x 1.100 mm 24,2 x 47,0 x 43,3 in
Net Weight	42,5 kg (93,5 lb)	59,0 kg (130,0 lb)	87,0 kg (191,8 lb)	140,0 kg (308,7 lb)
Components				
LF Driver	12P	15GNR	18UXN	21UXN4

LINE DRAWINGS

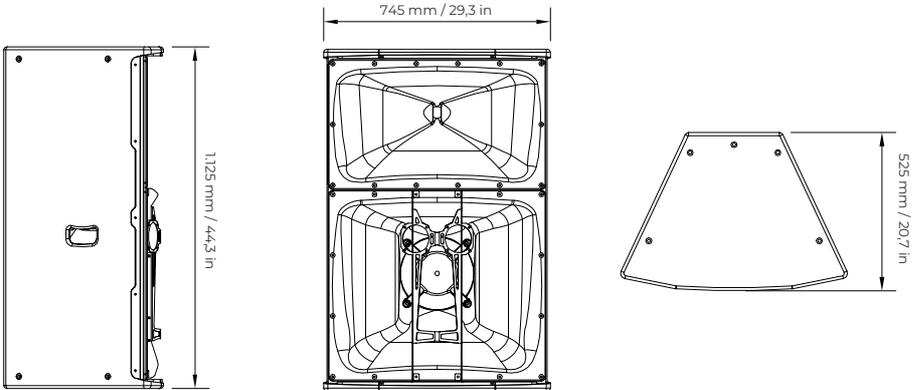
ES-10



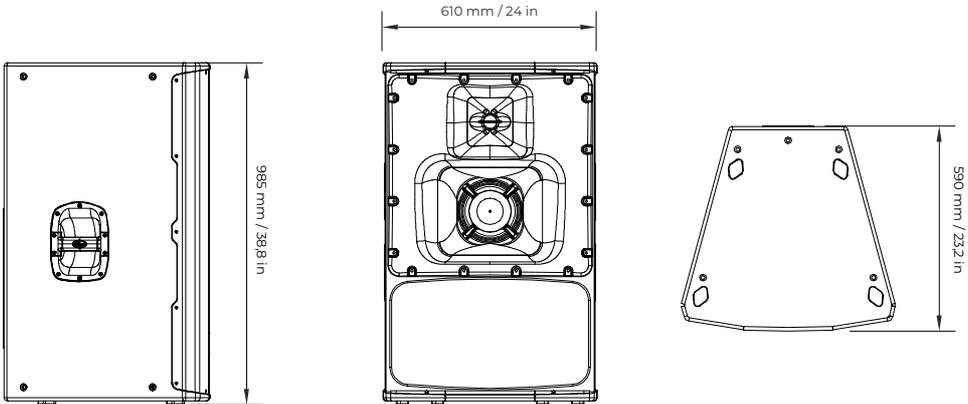
ES-26



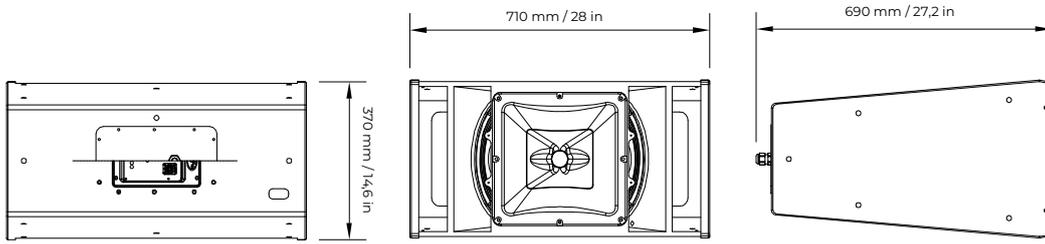
ES-112



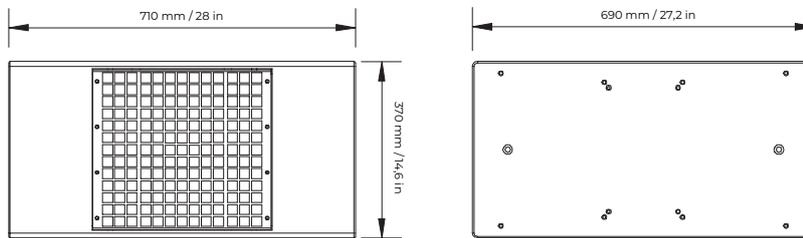
ES-158



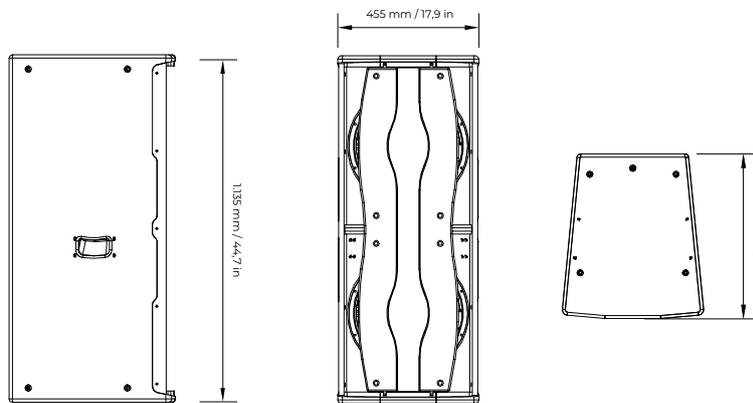
ES-212.64 / 95



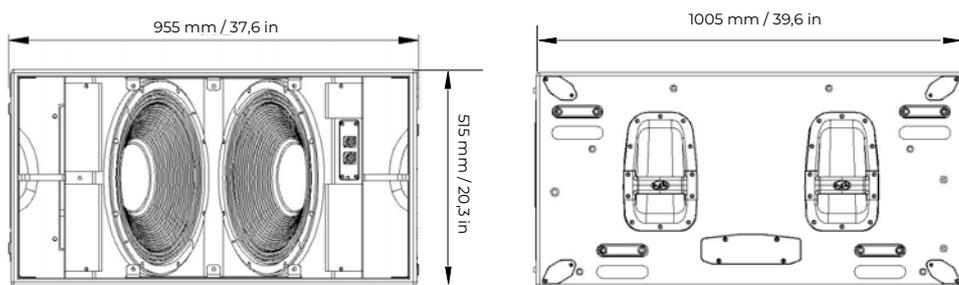
ES-212

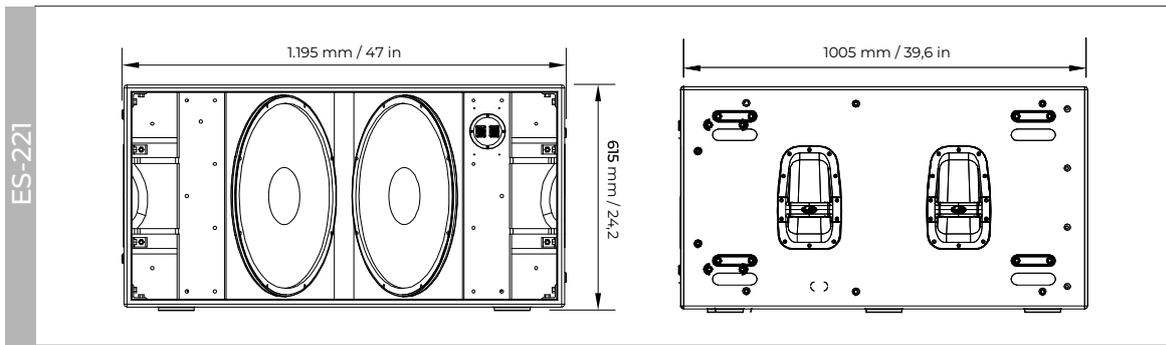


ES-215



ES-218





INSTALLATION AND ACCESSORIES

To perform any operations related to flying the system, read the present document first, and act on the warnings and advice given.

The goal is to allow the user to become familiar with the mechanical elements required to fly the acoustic system, as well as the safety measures to be taken during set-up and teardown.

Only experienced installers with adequate knowledge of the equipment and local safety regulations should fly speaker boxes.

It is the user's responsibility to ensure that the systems to be flown (including flying accessories) comply with state and local regulations.

The working load limits in this manual are the results of tests by independent laboratories. It is the user's responsibility to stay within safe limits. It is the user's responsibility to follow and comply with safety factors, resistance values, periodical supervisions and warnings given in this manual.

Product improvement by means of research and development is on going at E11EVEN SOUND by DAS Audio. Specifications are subject to change without notice.

It is common practice to apply 5:1 safety factors for enclosures and static elements. For slings and elements exposed to material fatigue due to friction and load variation the following ratios must be met; 5:1 for steel cable slings, 4:1 for steel chain slings and 7:1 polyester slings.

Thus, an element with a breaking load limit of 1000 kg may be statically loaded with 200 kg (5:1 safety factor) and dynamically loaded with 142 Kg (7:1 safety factor).

The load capacity, of each lift motor, should be correspond to a safety factor of 10:1.

When flying a system, the working load must be lower than the resistance of each individual flying point in the enclosure, as well as each box. Hanging hardware should be regularly inspected and suspect units replaced if in doubt.

This is important to avoid injury and absolutely no risks should be taken in this respect. It is highly recommended that you implement an inspection and maintenance program on flying elements, including reports to be filled out by the personnel that will carry out the inspections.

Local regulations may exist that, in case of accident, may require you to present evidence of inspection reports and corrective actions after defects were found.

Connectors

The passive models of E11EVEN SOUND Series have been designed to facilitate the operation and set up in the installations, so it has been provided with connectors NL4 type, standard for professional audio equipment. These terminals are connected in parallel, so that we can carry the amplified audio signal up to a device and we can forward it to the next box, very easily. The polarity of the connectors and other important information for proper connection is indicated on the labels.

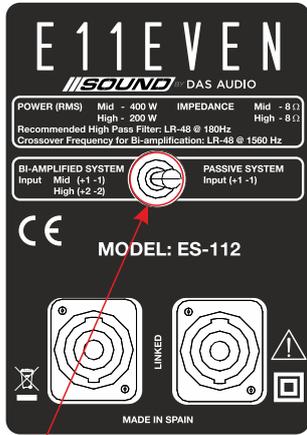
Models using NL4 connectors in passive mode are: ES-10, ES-26, ES-212, ES-215, ES-218, ES-221.



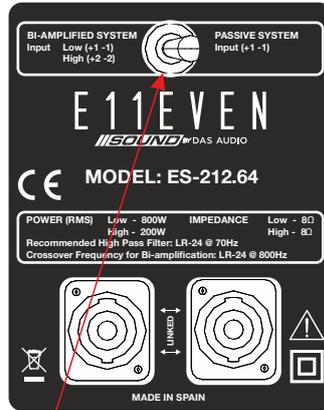
ES-221, one 21" connected to pins +1 the other 21" connected to pins +2

The active/passive models of E11EVEN SOUND have been designed to facilitate the operation and set up in the installations, so it has been provided with connectors NI4 /NL8 type and a switch to operate the systems in passive, bi-amped or tri-amped mode.

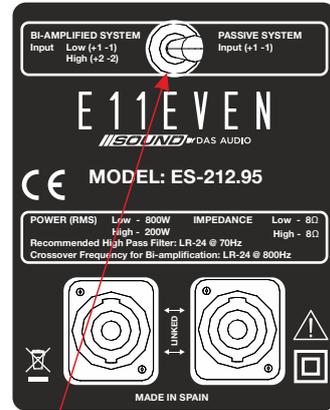
These terminals are connected in parallel, so that we can carry the amplified audio signal up to a device and we can forward it to the next box, very easily. The polarity of the connectors and other important information for proper connection is indicated on the labels. Models using NL4 connectors with switch for passive bi-amped: ES-112, ES-212.95, ES-212.64



Switch to operating mode:
BI-AMPLIFIED - PASSIVE



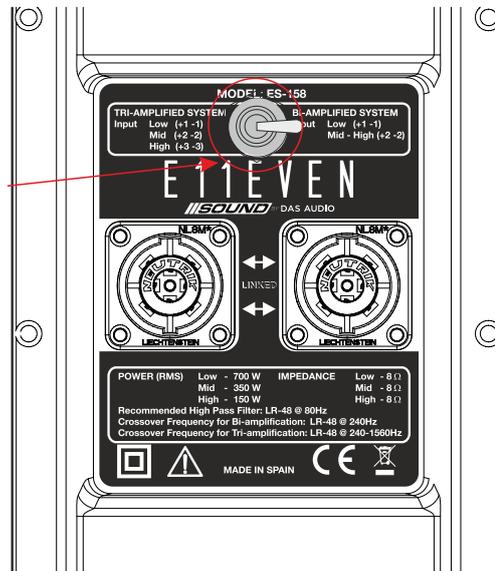
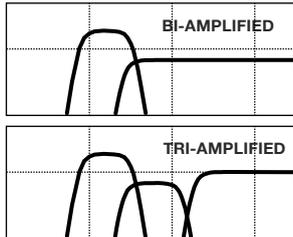
Switch to operating mode:
BI-AMPLIFIED - PASSIVE



Switch to operating mode:
BI-AMPLIFIED - PASSIVE

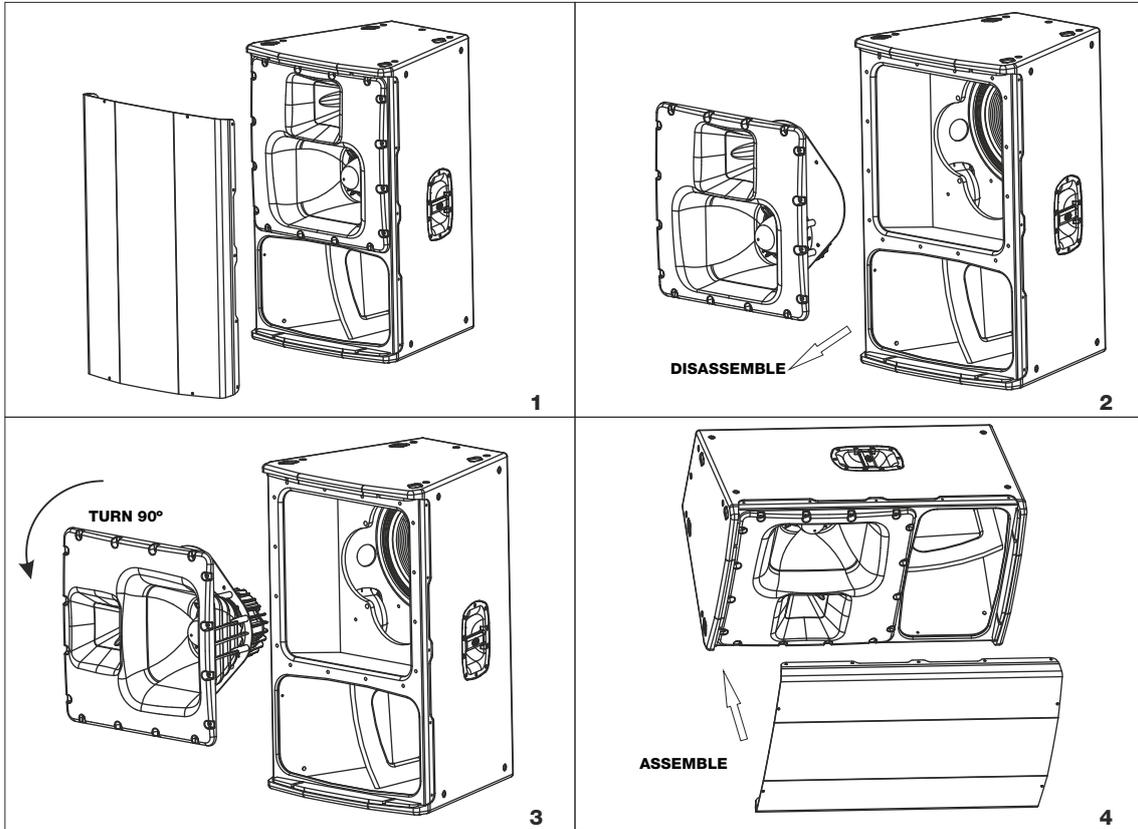
There is one model, ES-158 using NL8 connectors:

Switch to operating mode:
BI-AMPLIFIED - TRI-AMPLIFIED

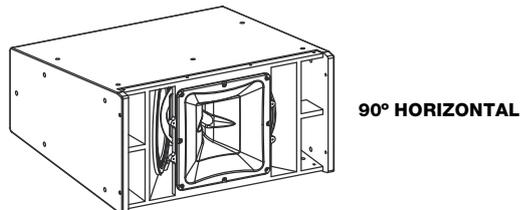


Rotatable horns

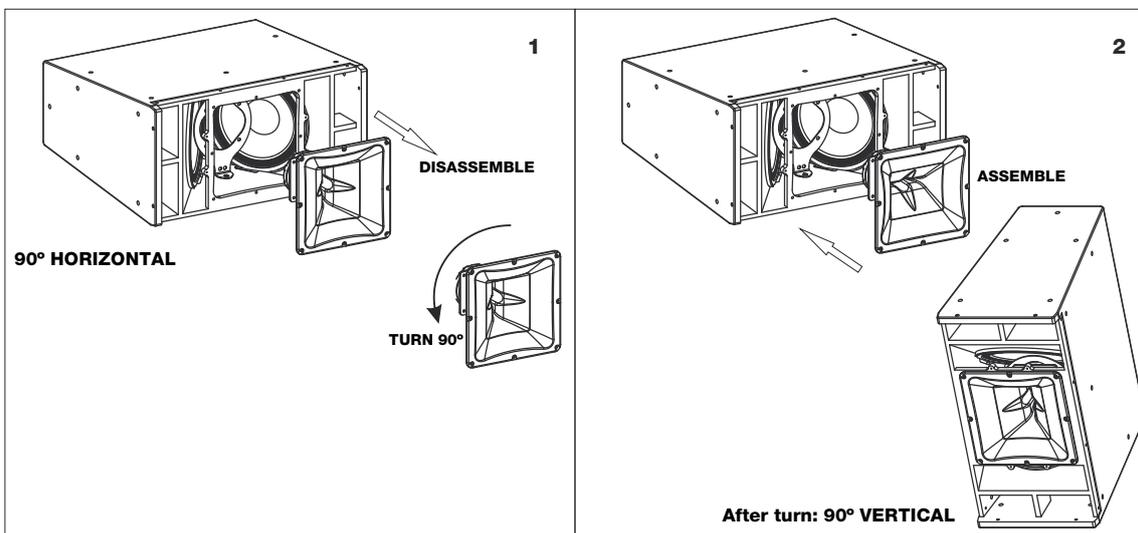
When installing the equipment horizontally, it is advisable to rotate the horn to maintain coverage ranges. The ES-10 is configured by default to be set up in horizontal position. If the installer needs to set up the system vertically, rotating the horn should be done. Similarly the model ES-158 has been equipped with a modular set of two horns that can be rotated at the same time, as shown in the following figures:



The ES-212.95 and ES-212.64 models come by default with the wider dispersion in horizontal position:



The ES-212.95 and ES-212.64 horns can also be rotated as follows:

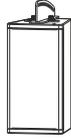


ACCESSORIES

For Use with:

Model:

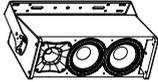
ES-26 / ES-10



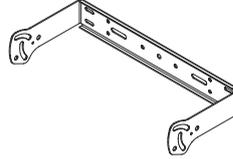
AX-AR5



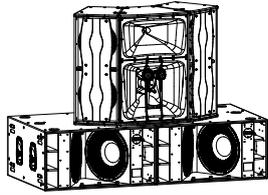
ES-26



AXU-AR526



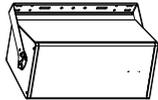
Join ES-215 to ES-221



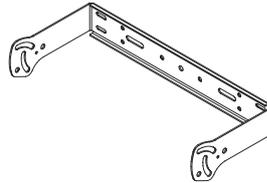
AX-SF1



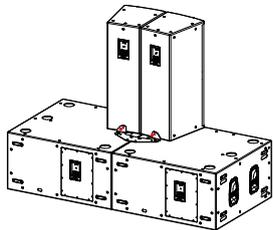
ES-10



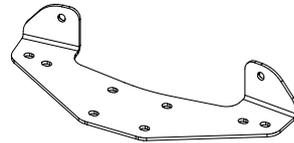
AXU-AR510



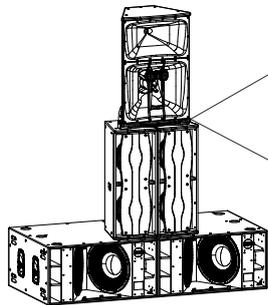
Join ES-215 to ES-221



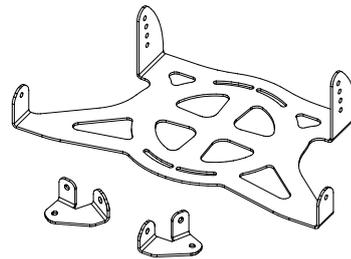
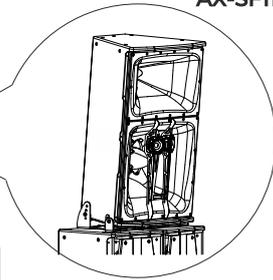
AX-SF2215



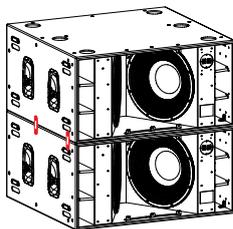
Join ES-112 to ES-215



AX-SF112VA



Join subwoofers ES-218 / ES-221



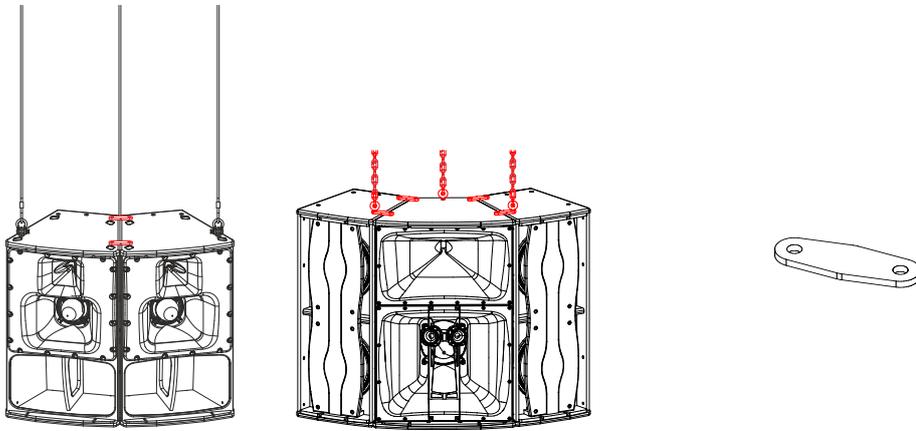
AX-SF2



W B

>E >E >E

ý EW



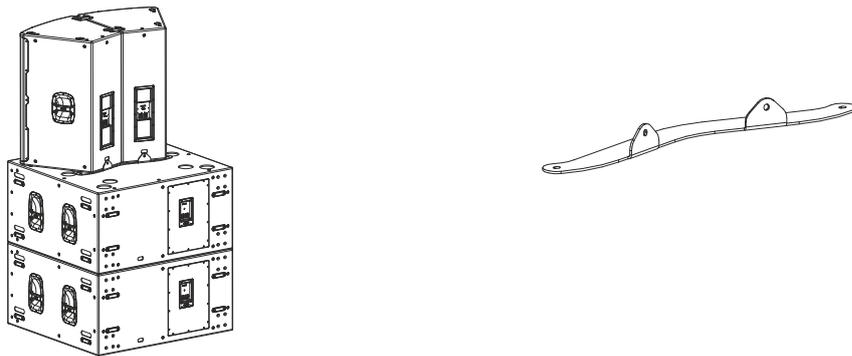
>E

ýW Ā



v >E >E

ý EW

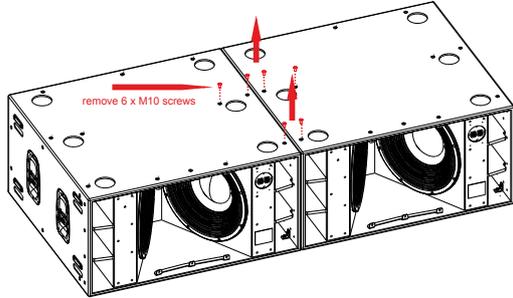


INSTALLING A LARGE SYSTEM STACKED

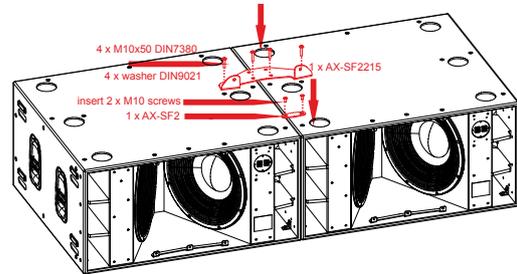
Each channel of the large dance stack is configured by 2 x ES-221, 2 x ES-215 and 1 x ES-112 the accessories needed are (for each stack):

1 x AX-SF2215 + 1 x AX-SF112VA + 1/2 x AX-SF2 (each kit AX-SF2 contains two steel joining plates)

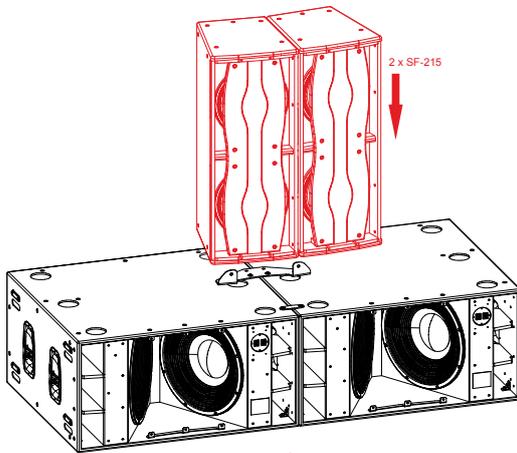
1



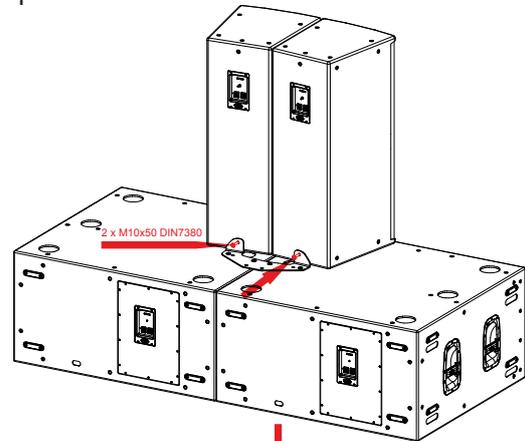
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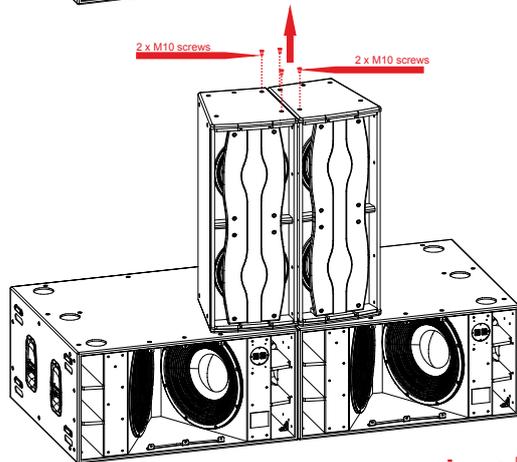
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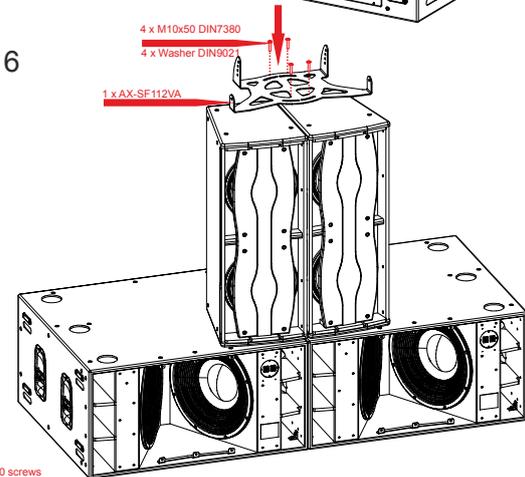
4



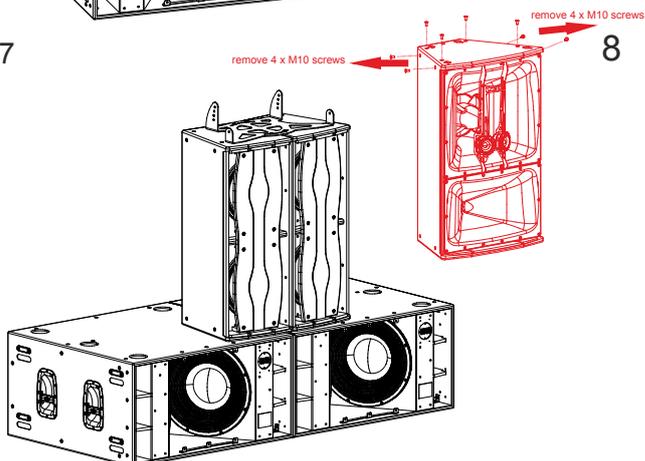
5



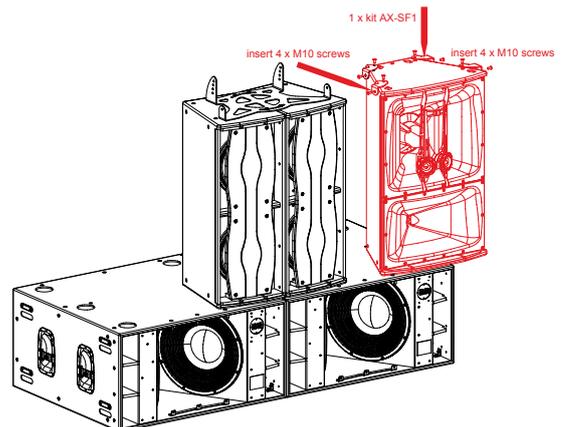
6



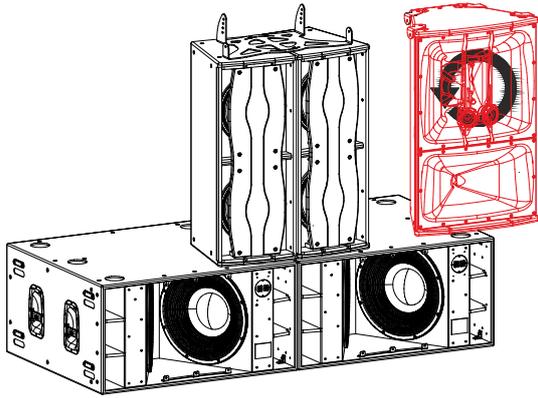
7



8



9

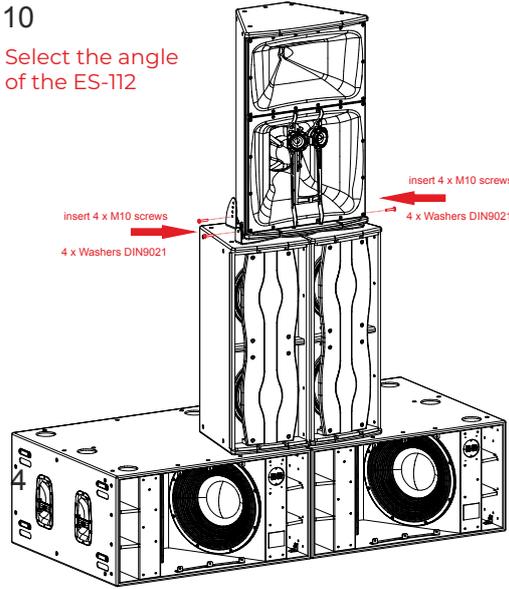


10

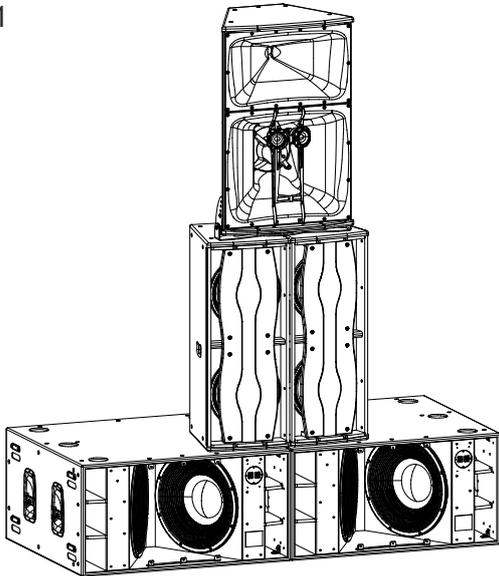
Select the angle of the ES-112

insert 4 x M10 screws
4 x Washers DIN9021

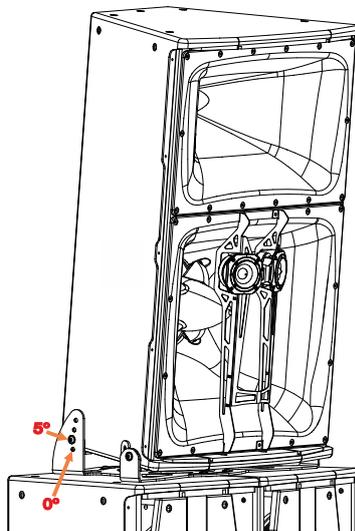
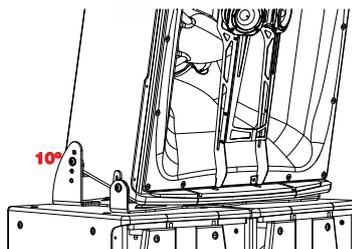
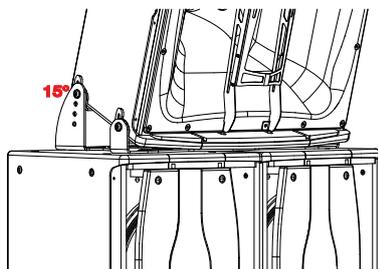
insert 4 x M10 screws
4 x Washers DIN9021



11



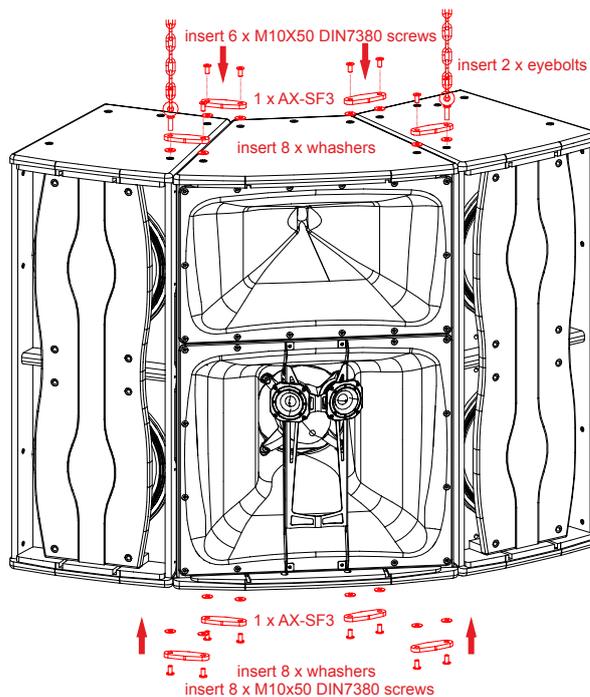
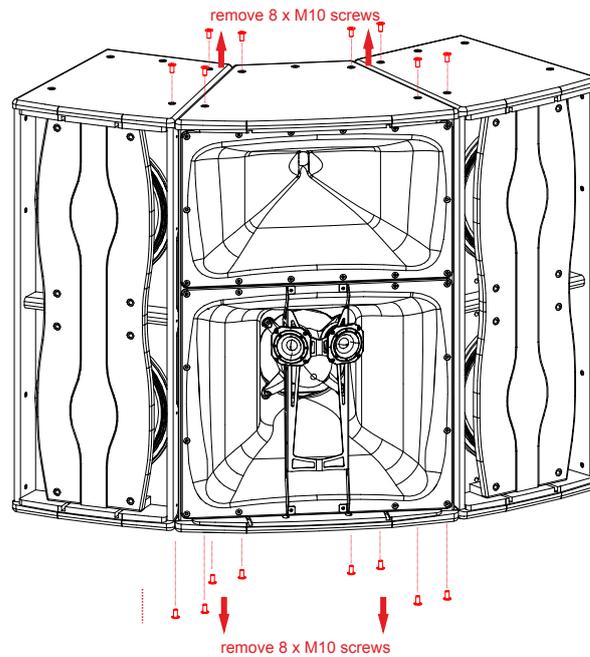
Note: The accessory AX-SF112VA lets you adjust the angles of ES-112, 0 °, 5 °, 10 ° or 15 ° as follows:



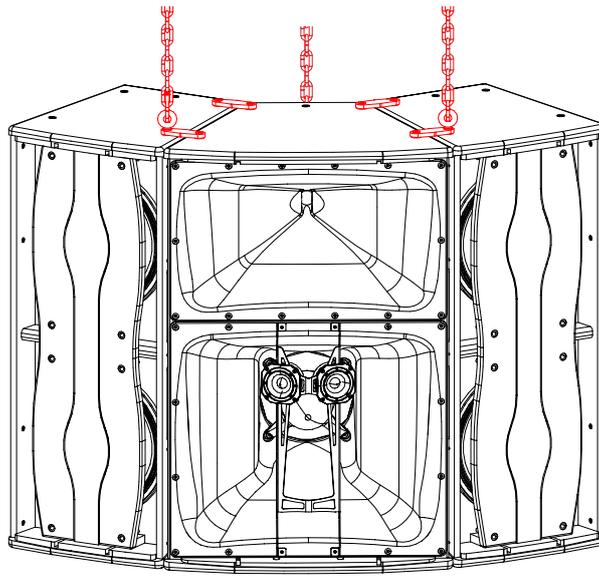
Installing a flown large dance system (2 x ES-215 + 1 x ES-112)

Each channel of the large dance stack is configured by 2 x ES-221 or ES-218, 2 x ES-215 and 1 x ES-112. the accessories needed are (for each channel):

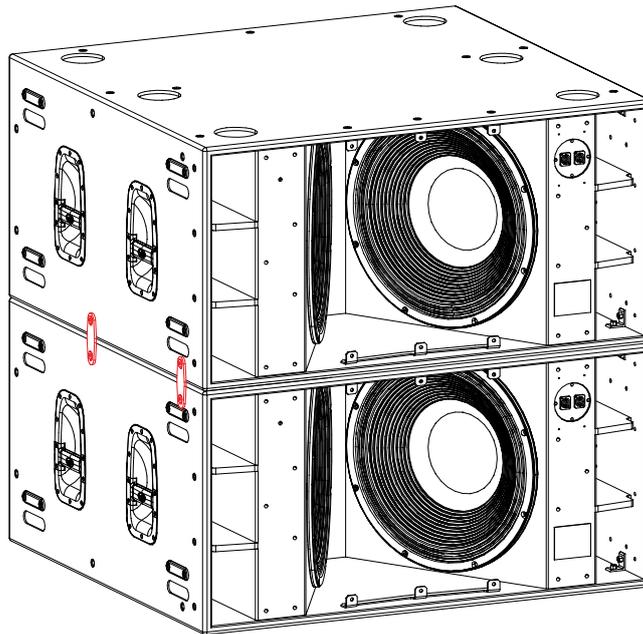
2 x AX-SF2 + 2 x AX-SF3 (includes eyebolts, M10x50 DIN 7380 screws and plates)



Use the rear panel M10 nut of the ES-112 to insert a third eyebolt and tilt down the system the desired angle:



Use the kits AX-SF2 to join the subwoofers ES-221 together :



Installing a flown medium system (2 x ES-158)

Each channel of the medium dance system is configured by 2 x ES-158 (to achieve 80° horizontal dispersion). The accessories needed are (for each channel of the system):

2 x AX-SF2 + 2 x AX-SF3 (includes 8 x M10x50 DIN7380 screws, eyebolts and plates)

To hang the units, the Allen-head screws must be removed and replaced by M10 eyebolts (included in the AX-SF3 kit) on one side of the enclosure. Each rigging point has 200 kg (440 lb) working load limit.

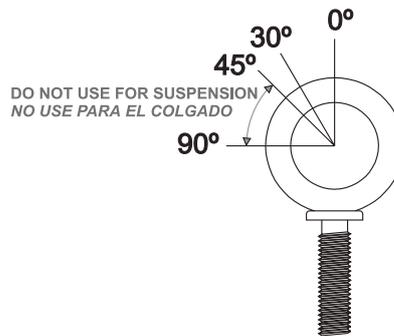
Then choose the slings or chains of required load resistance and length, bearing in mind that the length difference between the front and back slings or chains will determine the vertical orientation. Alternatively, the back bottom eyebolt points can be used to provide vertical orientation.

Each eyebolt has a rated working load of 200 kg. (440 lb). Each carabiner has a working load of 330 kg (726 lb). If using other hardware, make sure it is rated to handle the required load.

When using eyebolts it is important to bear in mind that the rated working load is only true for a load applied in the plane of the eye, and is significantly reduced for other angles. The drawing illustrates the concept.

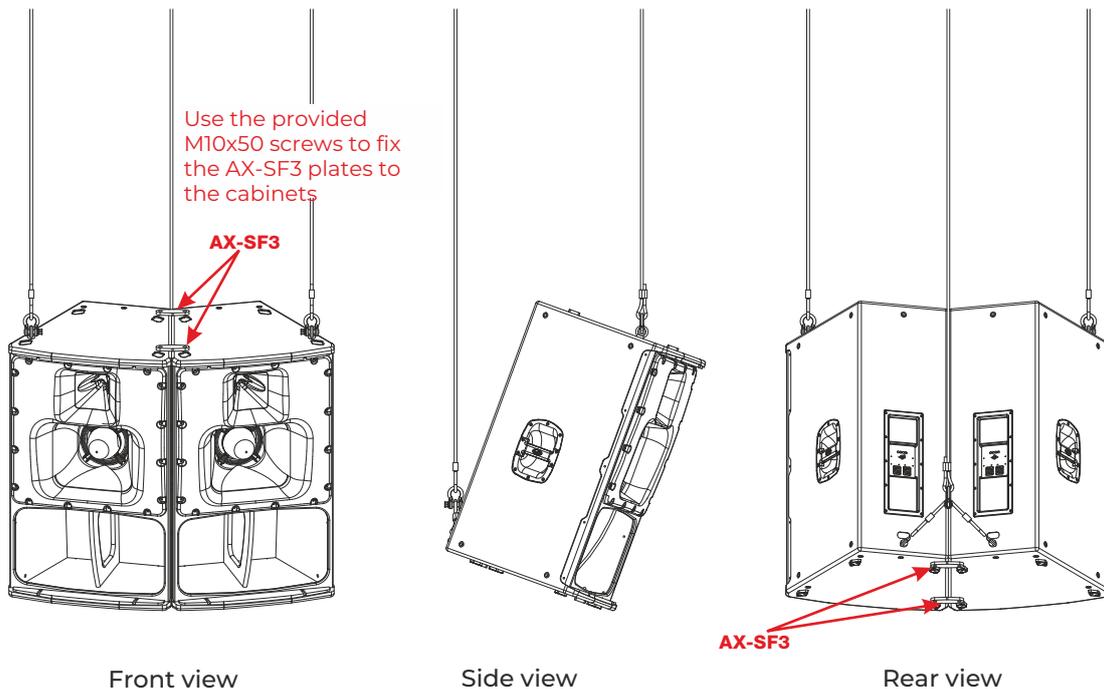
The table shows the variation of the working load as a function of the load angle. In the case of the eyebolt, this means that the 200 kg working load becomes 60 kg at 45 degrees. Do not use eyebolt flying if the load angle is higher than 45 degrees.

	0 Degrees	30 Degrees	45 Degrees	More than 45 Degrees
% Working Load	100%	65%	30%	25%

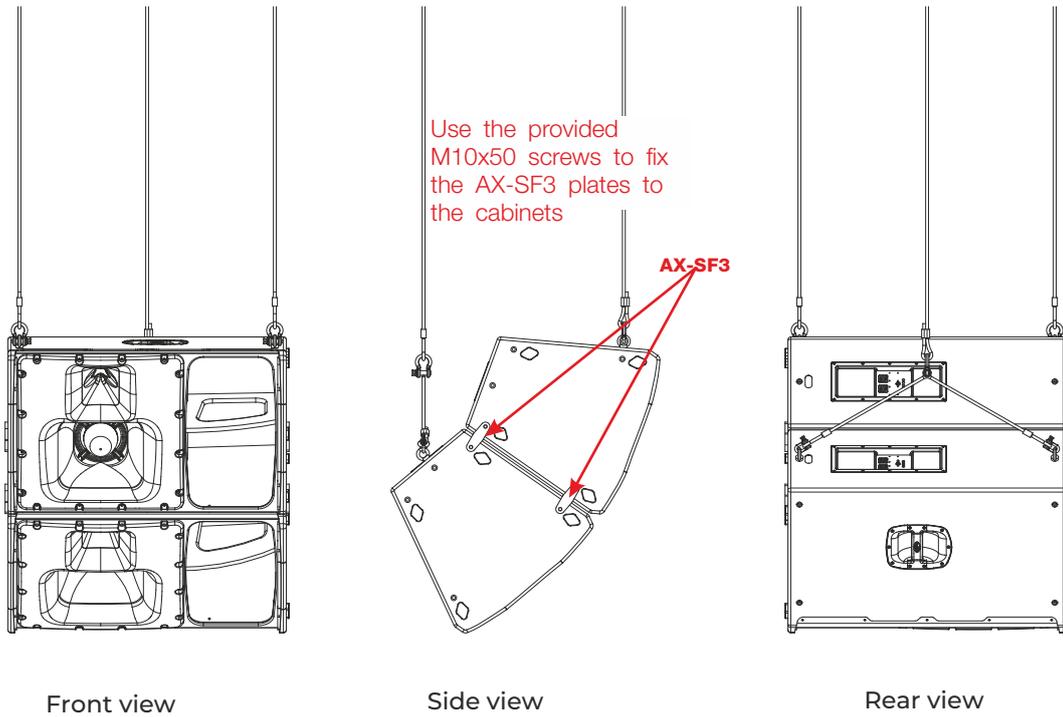


Next, both horizontal and vertical arrays are shown:

Horizontal Array



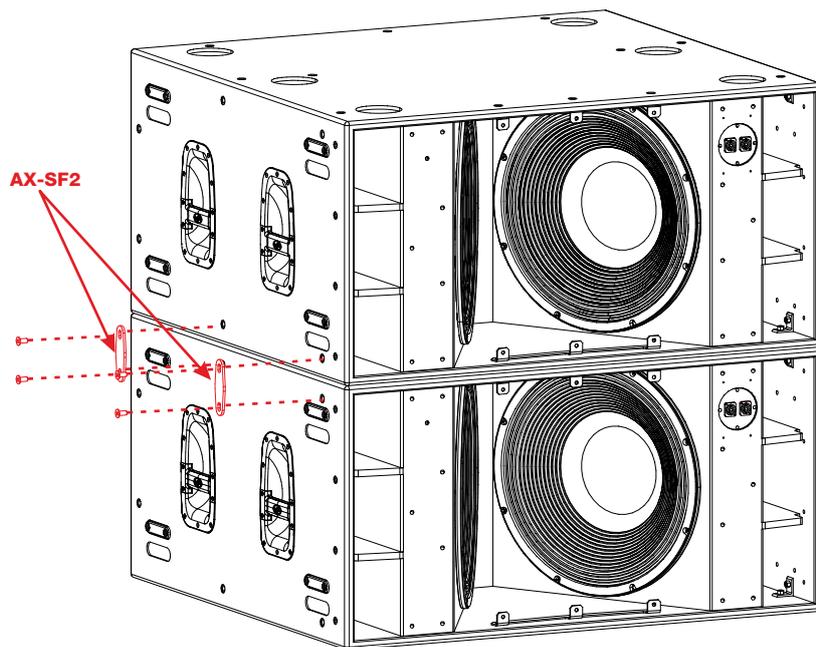
Vertical Array



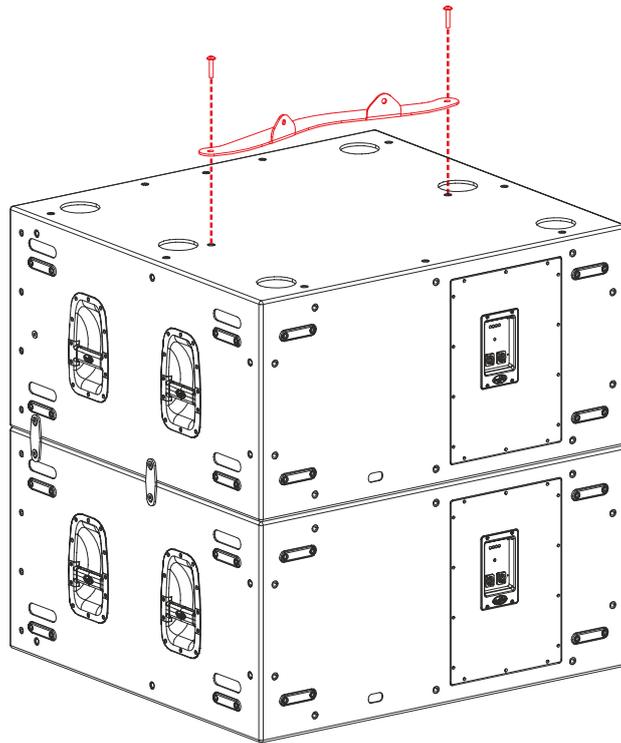
Installing a stacked medium dance system (2 x ES-158 + 2 x ES-221)

Accessories needed for each channel: 2 x AX-SF2 + 1 x AX-SF2158

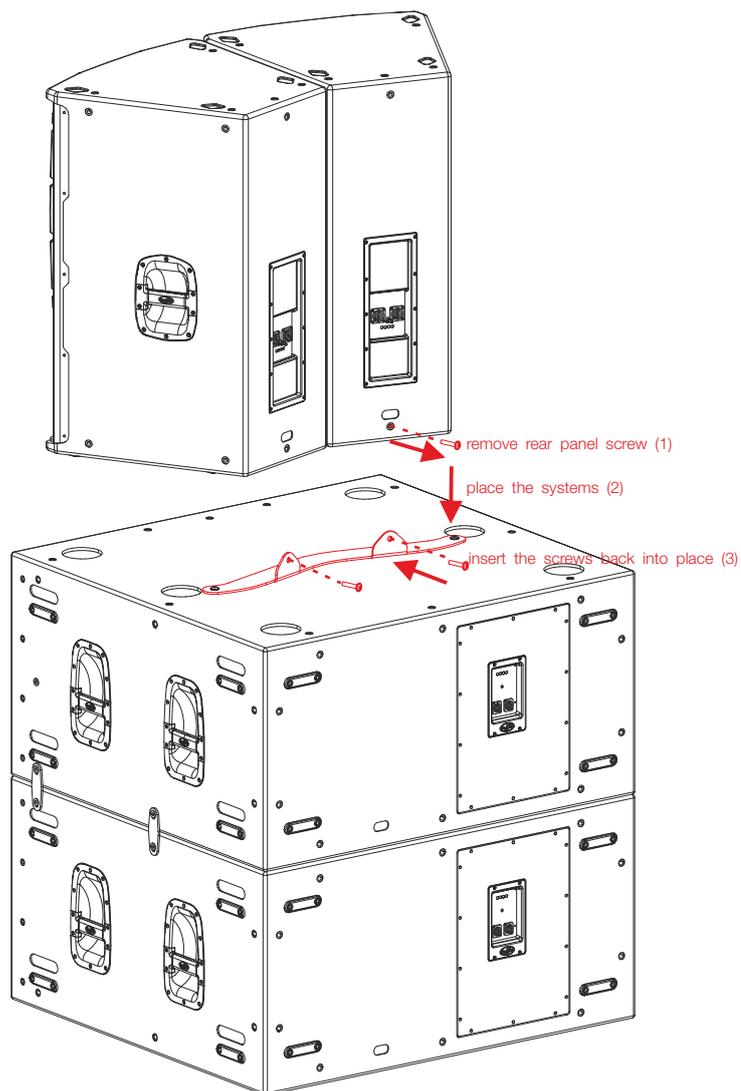
First step, double stack the 2 x SF-221 as shown below, joining the boxes with 4x AX-SF2 (2 kits of AX-SF2).



Next step, screw the AX-SF2158 to the top subwoofer using the M 10 screws



Next, place the 2 x ES-158, and screw them to the AX-SF2158 using the rear panel M10 screws of the ES-158



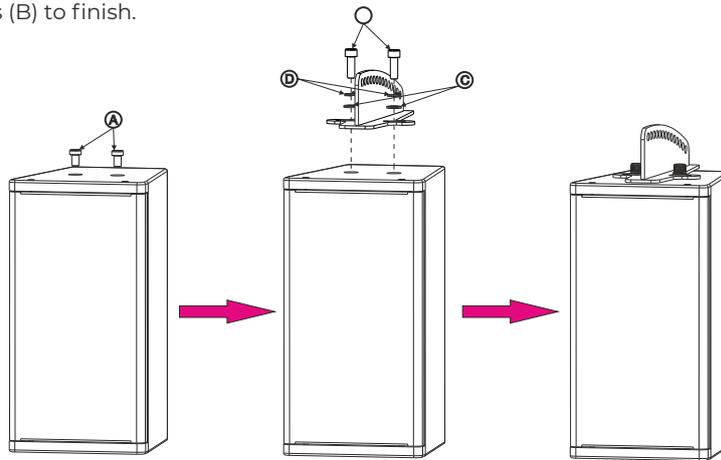
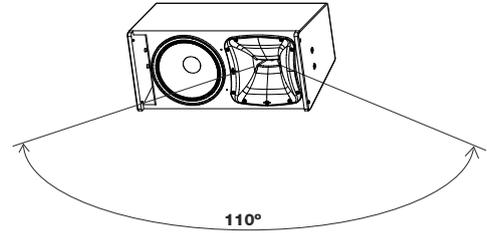
Installing a distributed system using AX-AR5

This accessory is valid for the ES-26 and ES-10 models. It can be used when suspending the systems vertically from a truss or a ceiling structure.

Remember that the ES-10 systems come by default with the 110° coverage in horizontal position. So, when installing it vertically, it might be necessary to rotate the horn:

Follow this process (ES-26 or ES-10)

- 1.- Unscrew (A) from the top of the enclosure.
- 2.- Position AXR-AR5 on the top slots of the enclosure.
- 3.- Place the screws (B) with the washers (C) and (D).
- 4.- Fix the screws (B) to finish.

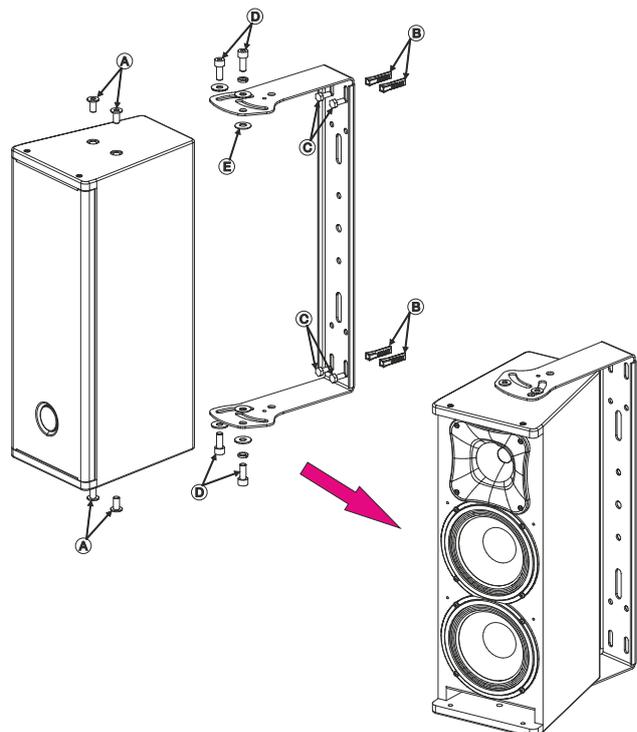


Installing an ES-26 with the AXU-AR526 "U bracket"

This accessory is valid when installing the ES-26 units from a wall or a ceiling in horizontal / vertical position.

Follow this process

- 1.- Unscrew the two enclosure top screws and the two lower screws (A)
- 2.- Position the bracket on the wall and mark the fixing points
- 3.- Drill the holes and insert the four wall plugs as in the figure (B).
- 4.- Position the wall bracket and attach using the hex screws (C).
- 5.- Position the enclosure between the bracket arms selecting the appropriate slot and angle depending on the desired orientation and clearance for the rear Speacon connector.
- 6.- Insert the screws supplied (D) and the rubber washers (E) between the enclosure and the bracket. Do not tighten yet.
- 7.- Aim the enclosure for optimum coverage and permanently tighten the screws (D).

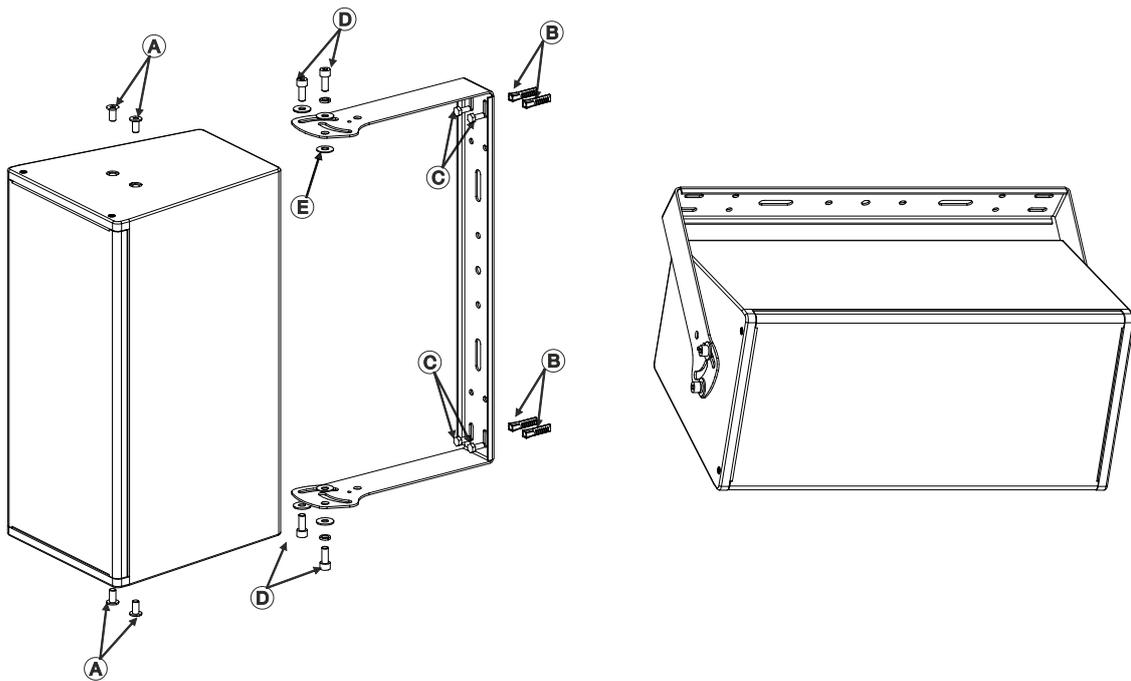


Installing an ES-10 with the AXU-AR510 “U bracket”

This accessory is valid when installing the ES-10 units from a wall or a ceiling in horizontal / vertical position.

Follow this process

- 1.- Unscrew the two enclosure top screws and the two lower screws (A).
- 2.- Position the bracket on the wall and mark the fixing points
- 3.- Drill the holes and insert the four wall plugs as in the figure (B).
- 4.- Position the wall bracket and attach using the hex screws (C).
- 5.- Position the enclosure between the bracket arms selecting the appropriate slot and angle depending on the desired orientation and clearance for the rear Speakon connector.
- 6.- Insert the screws supplied (D) and the rubber washers (E) between the enclosure and the bracket. Do not tighten yet.
- 7.- Aim the enclosure for optimum coverage and permanently tighten the screws (D).



ANNEX I : Table for cable selection

This table shows the power loss in % and dB, for different cable lengths and sections shown. It is recommended that the losses do not exceed 30% in any case (around 3dB). Although it is recommended minimizing losses, the maximum acceptable losses are usually around 15% (approximately 1.4dB).

Longitud / Length		Calibre	Area	R	Perdida de potencia / Power Loss			
m	ft	AWG	mm2	Ohms	% @ 8 ohms	% @ 4 ohms	dB @ 8 ohms	dB @ 4 ohms
5	16,4	18	0,8	0,2250	2,74	5,33	-0,241	-0,475
		16	1,31	0,1374	1,69	3,32	-0,148	-0,293
		14	2,1	0,0857	1,06	2,10	-0,093	-0,184
		12	3,3	0,0545	0,68	1,35	-0,059	-0,118
		10	5,3	0,0340	0,42	0,84	-0,037	-0,073
		8	8,35	0,0216	0,27	0,54	-0,023	-0,047
10	33	18	0,8	0,4500	5,33	10,11	-0,475	-0,926
		16	1,31	0,2748	3,32	6,43	-0,293	-0,577
		14	2,1	0,1714	2,10	4,11	-0,184	-0,364
		12	3,3	0,1091	1,35	2,65	-0,118	-0,234
		10	5,3	0,0679	0,84	1,67	-0,073	-0,146
		8	8,35	0,0431	0,54	1,07	-0,047	-0,093
15	49	18	0,8	0,6750	7,78	14,44	-0,704	-1,354
		16	1,31	0,4122	4,90	9,34	-0,436	-0,852
		14	2,1	0,2571	3,11	6,04	-0,275	-0,541
		12	3,3	0,1636	2,00	3,93	-0,176	-0,348
		10	5,3	0,1019	1,26	2,48	-0,110	-0,218
		8	8,35	0,0647	0,80	1,59	-0,070	-0,139
25	82	18	0,8	1,1250	12,33	21,95	-1,143	-2,153
		16	1,31	0,6870	7,91	14,66	-0,716	-1,377
		14	2,1	0,4286	5,08	9,68	-0,453	-0,884
		12	3,3	0,2727	3,30	6,38	-0,291	-0,573
		10	5,3	0,1698	2,08	4,07	-0,182	-0,361
		8	8,35	0,1078	1,33	2,62	-0,116	-0,231
50	164	18	0,8	2,2500	21,95	36,00	-2,153	-3,876
		16	1,31	1,3740	14,66	25,57	-1,377	-2,565
		14	2,1	0,8571	9,68	17,65	-0,884	-1,686
		12	3,3	0,5455	6,38	12,00	-0,573	-1,110
		10	5,3	0,3396	4,07	7,83	-0,361	-0,708
		8	8,35	0,2156	2,62	5,11	-0,231	-0,456
75	246	18	0,8	3,3750	29,67	45,76	-3,057	-5,314
		16	1,31	2,0611	20,49	34,01	-1,991	-3,610
		14	2,1	1,2857	13,85	24,32	-1,295	-2,421
		12	3,3	0,8182	9,28	16,98	-0,846	-1,616
		10	5,3	0,5094	5,99	11,30	-0,536	-1,041
		8	8,35	0,3234	3,88	7,48	-0,344	-0,675
100	328	18	0,8	4,5000	36,00	52,94	-3,876	-6,547
		16	1,31	2,7481	25,57	40,72	-2,565	-4,542
		14	2,1	1,7143	17,65	30,00	-1,686	-3,098
		12	3,3	1,0909	12,00	21,43	-1,110	-2,095
		10	5,3	0,6792	7,83	14,52	-0,708	-1,362
		8	8,35	0,4311	5,11	9,73	-0,456	-0,889

E11EVEN

//SOUND BY DAS AUDIO