

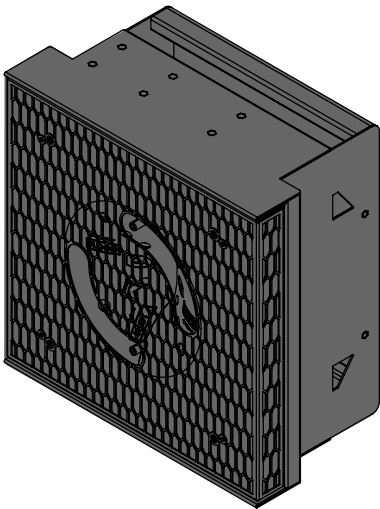
Firenze-KX12F I

12" coaxial stainless steel array element, Firenze edition

QUICK GUIDE



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IMPORTANT SAFETY INSTRUCTIONS



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol alerts the user to the presence of recommendations about the product's use and maintenance.



The lighting flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated, dangerous voltage within the product enclosure that may be of magnitude to constitute a risk of electrical shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in this guide.



Operator's manual; operating instructions

This symbol identifies the operator's manual that relates to the operating instructions and indicates that the operating instructions should be considered when operating the device or control close to where the symbol is placed.



For indoor use only

This electrical equipment is designed primarily for indoor use.



WEEE

Please dispose of this product at the end of its operational lifetime by bringing it to your local collection point or recycling center for such equipment.



This device complies with Restriction of Hazardous Substances Directive.



WARNING
Failure to follow these safety instructions could result in fire, shock or other injury or damage to the device or other property.

General heed and warnings

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Only use attachments/accessories specified by the manufacturer.
- Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
- Clean the product only with a soft and dry fabric. Never use liquid cleaning products, as this may damage the products cosmetic surfaces.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Avoid placing the product in a location under direct sunlight or near any appliance that generates UV (Ultra Violet) light, as this may change the product surface finishing and cause a change in color.
- 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.
- CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.
- WARNING: Only use attachments/accessories specified or provided by the manufacturer (such as the exclusive supply adapter, battery, etc.).
- Before turning the power on or off for all devices, set all volume levels to minimum.
- Use only speaker cables for connecting speakers to the speaker terminals.



This apparatus is intended for professional use.

Installation and commissioning may only be carried out by qualified and authorized personnel.

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- Be sure to observe the amplifier's rated load impedance particularly when connecting speakers in parallel. Connecting an impedance load outside the amplifier's rated range can damage the apparatus.
- K-array cannot be held responsible for damage caused by improper use of the loudspeakers.
 - K-array will not shoulder any responsibilities for products modified without prior authorization.

CE Statement

K-array declares that this device is in compliance with applicable CE standards and regulations. Before putting the device into operation, please observe the respective country-specific regulations!



Trademark Notice

All trademarks are the property of their respective owners.

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This document is a **Quick Start Guide**, providing the essential information about the product.

For detailed instructions and advanced configurations, please refer to the full user manual available soon on the K-array website.

Thank you for choosing this K-array products!

To ensure proper operation, please carefully read the owner's manuals and safety instruction before using the products.

After reading this manual, be sure to keep it for future reference.

If you have any questions about your new device please contact K-array customer service at support@k-array.com or contact the official K-array distributor in your country.

The KX12F is a coaxial point-source loudspeaker designed for high-performance professional audio applications. It features a 12" woofer and a 1.7" compression driver, delivering high sound pressure levels, excellent intelligibility, and extended frequency response.

This updated version of the KX12 delivers a rated power of 1200 W and a peak SPL of up to 134 dB, combining powerful output with a compact form factor. The KX12F is fully compatible with the Firenze-KH7P line array, functioning as a down-fill or step-array element to optimize near-field coverage and overall system uniformity.

The stainless-steel enclosure and signature wide-mesh grille ensure durability and reliability, even in demanding environments. The loudspeaker incorporates an adjustable waveguide that allows both vertical and horizontal coverage to be tailored from 30° to 90°, enabling precise sound dispersion according to venue requirements.

Thanks to its power, flexibility, and reliability, the KX12F is well suited for high-energy sound reinforcement applications, including DJ monitoring and distributed sound systems in clubs and dancefloor environments.

Key Features

- **12" Coaxial Point-Source**
 - 12" woofer + 1.7" compression driver in a single coaxial assembly for coherent, natural sound.
- **Rotatable Horn**
 - 40° × 60° directivity, adjustable via physical rotation.
- **Compatible with the Firenze systems, available configurations:**
 - Down-fill configuration with dedicated brackets for use with the Firenze-KH7P I line array
 - Step-array configuration with dedicated brackets
- **Flexible Mounting Options**
 - Stand alone, pole mounting with compatible pole adapters
 - Wall installation with K-UBRACKETKX12.
- **Rugged Construction**
 - Stainless steel cabinet, IP54 protection, black or custom RAL finish.
- **High Output Performance**
 - 134 dB peak SPL with a compact 15 kg enclosure.

Applications*

- Main L/R line arrays, down-fill & step array configurations
- Stage monitoring and DJ setups
- Portable PA and touring systems
- Fixed installations in clubs, theaters, or multipurpose venues
- High SPL performance in a compact format.

* The configurations and applications described require dedicated accessories, which are sold separately from the loudspeaker.

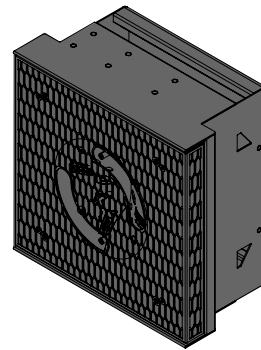
Unpacking

Package Contents

Each K-array product is built to the highest standard and thoroughly inspected before leaving the factory.

Upon arrival, carefully inspect the shipping carton, then examine and test your new device. If you find any damage, immediately notify the shipping company.

- A. 1x Dragon-KX12FI



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Getting Started

Quick Installation & Setup Guide

Follow these instructions to properly install and set up the loudspeaker:

- Unpack the KX12FI and any purchased accessories required for your intended configuration.
- Verify that all components are intact and that the mounting surface or structure can safely support the loudspeaker's weight (15 kg).
- **Choose the appropriate installation setup for your application:**
- **Standalone or point-source use**
 - Pole-mounting using compatible K-array pole adapters for portable reinforcement.
 - Deployment on stands or tripods where supported by the accessories in use.
- **With subwoofers (portable or live systems)**
 - Combine the KX12FI with K-array subwoofers to build compact, high-output full-range systems suitable for live events, DJ monitoring, or portable PA setups.
- **Front-fill, side-fill, or stage-fill configurations**
 - Use the KX12FI as a supplementary coverage element in larger systems, positioned according to the venue layout.
- **Down-fill & step array configurations**
 - Build multi-unit vertical arrays using K-JOINTKX12 joining hardware and connect the speaker to KH7PI straight line array element with:
 - K-STEPKX1225 for down-fill and step-array configurations 25° fix tilting
 - K-STEPKX1245 for K-STEPKX1225 for down-fill and step-array configurations 24° fix tilting
 - Ensure rigging safety, load capacity, and compliance with local regulations.

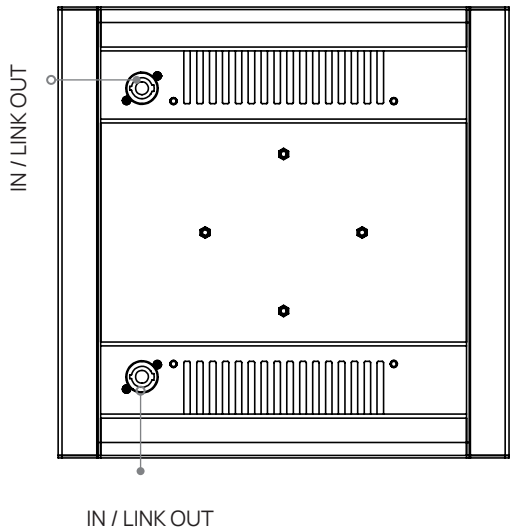
- **Fixed installations – wall mounting**
 - Install the loudspeaker on walls using the K-UBRACKETKX12.
 - Verify that the wall structure can support the load and meets safety requirements before securing the loudspeaker.
- **Connect the loudspeaker to the amplifier using a SpeakON NL4 cable wired as follows:**
 - 1+ / 1-: signal input
 - 2+ / 2-: signal through (for paralled additional units)

When used in combination with KH7PI, the use of a Kommander-KA208LIVE amplifier is recommended.

- **Verify the system impedance relative to the amplifier's capabilities - KX12FI nominal impedance: 8 Ω.**
 - In multi-unit setups or arrays, ensure the total load does not drop below the amplifier's minimum impedance.
- **Power on the system and verify that the amplifier and signal chain are functioning.**
- **Confirm correct routing, polarity, and that all connected loudspeakers receive input signal.**
- **Load the dedicated KX12FI preset on your K-array amplifier or DSP.**
 - This ensures proper voicing, phase alignment, and system protection.
- **For coverage adjustments and array control, use the K-array electronic tools:**
- **K-framework3 for array configuration, acoustic simulation, for vertical coverage management.**
- **Complete the setup with system alignment and tuning, adjusting EQ, delay, and coverage parameters to match the venue acoustics and the specific needs of the installation.**

Rear Panel

Each Dragon-KX12FI is equipped with 2x SpeakON NL4 connector - **IN and PARALLEL OUT / LINK** - for signal input and signal distribution trough other speakers in parallel.



Speaker Wiring Overview

Speaker Components

- 12" Woofer – Low and mid frequencies
- 1.7" Compression Driver – High frequencies - coupled with waveguide horn
- Coaxial design for a coherent point-source emission
- Input Connectors
- 2 × SpeakON NL4 (4-pin connectors)

Pin Assignments

- Pins 1+ / 1-: Full-range signal input
- (feeds the internal passive crossover that distributes low/mid and high frequencies to the respective coaxial components)

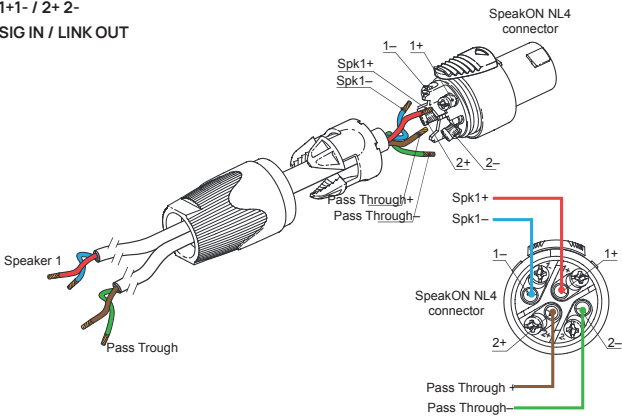
- Pins 2+ / 2-: Signal through
- (parallel pass-through to the second SpeakON connector for LINK/Parallel connection)

Amplification

- The KX12FI operates on a single amplifier channel.
- The internal passive crossover divides the incoming full-range signal between the 12" woofer and the 1.7" compression driver, ensuring proper frequency distribution and protection for both components.

KX12 I	2x NL4 speakON	Polarity - NL4 speakON		Amp Channels
HIGH / MID	IN	SIG		CH1
		1+	1-	
		LINK OUT / pass through		
		2+	2-	
HIGH / MID	LINK	SIG		CH1
		1+	1-	
		LINK OUT / pass through		
		2+	2-	

1+1- / 2+ 2-
SIG IN / LINK OUT



Impedance and Connections

- Nominal impedance KX12 I : $8\ \Omega$
 - Internal crossover: splits the signal between woofer and driver
 - Standard connection: single amplifier channel required
- Multiple speakers in parallel:
 - Total impedance decreases as more loudspeakers are added
 - Ensure the amplifier can handle the resulting load safely
 - Amplifier selection: refer to the [Amplifier Matching Table](#) on the K-array website.



Always check the loudspeaker impedance before connecting the amplifier.



Before driving the loudspeakers ensure to load the proper loudspeaker factory preset on Commander-KA amplifier

Amplifier Channel Matching

The KX12I features an internal passive crossover that distributes the audio signal to the different transducers (woofer and compression driver).

Thanks to this circuit, the loudspeaker presents a single nominal impedance of $8\ \Omega$, seen by the amplifier as one load.

Only one amplifier channel is required for proper operation.

When connecting multiple loudspeakers in parallel, the total system impedance decreases as more units are added.

Always ensure that the amplifier can safely drive the resulting load according to its specifications.

For proper amplifier selection based on the loudspeaker model, please refer to the Amplifier Matching Table available on the K-array website.



Before connecting the loudspeaker cable to the amplifier:

- ensure the loudspeaker impedance matches the amplifier channel rated load impedance, especially when connecting multiple loudspeakers in parallel;
- load the dedicated loudspeaker factory preset on the amplifier DSP.

System Configurations

Step-array - down-fill - side-fill configurations (25° / 45° fixed angles)

In step-array configurations, the KX12F can be installed with a 25° or 45° downward tilt toward the audience, using the dedicated mounting brackets, to provide a controlled extension of a line array deployed in a straight configuration, such as the Firenze-KH7P I.

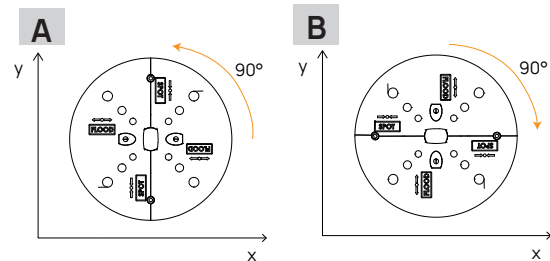
In this application, the KX12F acts as a transition element between the long-throw coverage of the main line array and the listening areas closer to the stage, ensuring a smooth and coherent sound distribution. The combination of the oriented coverage of the Firenze system, further optimized through **EBS (Electronic Beam Steering)**, and the more focused, near-field coverage of the KX12F helps reduce sound spill and prevents excessive SPL in areas where it is not required.

This solution is also particularly effective for side-fill and out-fill configurations, where the KX12F ensures ease of installation and precise aiming, allowing for accurate and controlled sound distribution to lateral or peripheral audience areas. The result is a more efficient coverage strategy, with improved control over acoustic energy, meeting both coverage requirements and sound level regulations.

User-selectable coverage (30°/90° – 90°/30° V/H)

Rotatable HF horn-wavedguide allows the user to select 30°/90° or 90°/30° vertical/horizontal dispersion

- 90° vertical coverage
Ideal for near-field, down-fill and step-array applications, improving coverage of audience areas close to the stage
- 30° vertical coverage
Provides increased control and reduced spill toward ceilings and reflective surfaces
- Optimized coverage management
Enables precise adaptation of vertical and horizontal dispersion to different venue geometries
- Improved sound distribution
Ensures consistent SPL and intelligibility while minimizing unwanted acoustic energy



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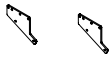
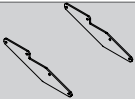
- A. in this position the sound dispersion is narrow in respect to the x-axis and wide in respect to the y-axis
- B. in this position the sound dispersion is wide in respect to the x-axis and narrow in respect to the y-axis

Manually rotate the horn by 90° using the handles at the front.

The combination of narrow vertical dispersion and wide horizontal coverage ensures controlled sound distribution and extended throw, particularly in array configurations.

Step Array configurations

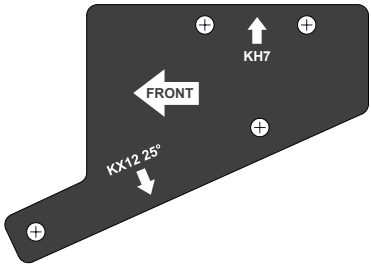
Needed equipment

Name	Description	Image	Apply to
K-STEPKX1225	25° Step Array Link (KX12FI-KH7) 2x plates + 8x self-locking pins		KH7P I
K-STEPKX1245	45° Step Array Link (KX12FI-KH7) 2x plates + 8x self-locking pins		KX12FI

K-STEPKX1225

The bracket features engraved orientation arrows and "Front" markings indicating the correct mounting direction.

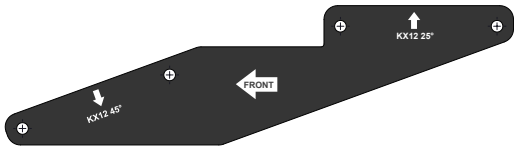
These markings apply to both connection sides, providing clear guidance for installation between the KH7P (upper element) and the KX12FI (lower element).



K-STEPKX1245

The bracket features engraved orientation arrows and "Front" markings indicating the correct mounting direction.

These markings apply to both connection sides, providing clear guidance for installation between the KH7P (upper element) and the KX12FI (lower element).



Step Array Assembly

1. After assembling all required elements to form the cluster, keep the last KH7P element suspended and positioned close to the lower audience area to be covered.
2. Attach the two K-STEPKX1225 brackets—one per side—to the designated connection points on the KH7P element. Secure each bracket using 2 self-locking pins per side. (fig.1).
3. Position the KX12FI below the KH7P and align it with the installed brackets. Fix the enclosure to the brackets using the provided connection points and self-locking pins. The connection is designed with a fixed 25° angle, defined by the bracket geometry, providing smooth coverage transition from the main array to the near-field area. (fig.2)
4. If extended downfill or near-field coverage is required, an additional KX12FI element can be installed below the first one. In this configuration, use two K-STEPKX1245 brackets—one per side—following the same mounting procedure described above.
The K-STEPKX1245 brackets provide a fixed 45° angle, enabling more aggressive vertical coverage for areas closer to or directly beneath the array. (fig.3)
5. Before lifting or operating the system, ensure that all pins are correctly inserted and securely locked, and verify that the assembly is properly aligned.



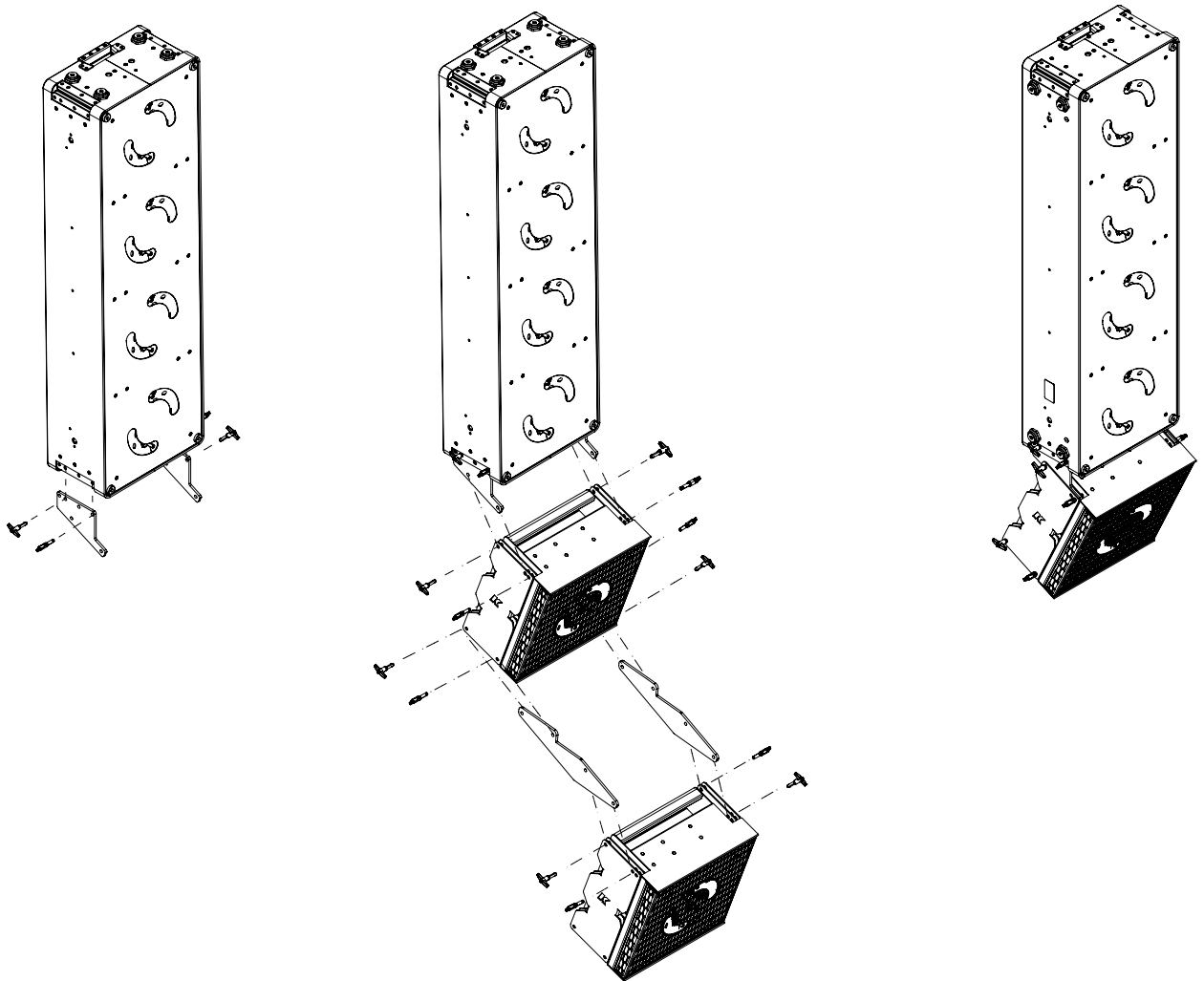
The maximum load specification refers to the Firenze-KH7P I array bumper. These limits must be strictly respected in all suspension configurations, including when KX12FI elements are added.

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Step Array Configuration Assembly



- **Step-array extension of straight line arrays**

Used as a down-angled extension (25° or 45°) of a straight line array to ensure smooth coverage of near-field audience areas while preserving long-throw performance

- **Down-fill for large-scale PA systems:**

Provides focused near-field coverage for front rows and areas close to the stage, improving intelligibility and SPL uniformity.

- **Side-fill coverage:** Ideal for covering lateral audience areas with precise aiming and controlled dispersion, minimizing unwanted spill toward reflective or non-listening zones.

- **Out-fill applications**

Effective for extending horizontal coverage in wide venues, ensuring consistent sound pressure levels and tonal balance across the audience.

- **Coverage optimization in sound-level-restricted environments**

Helps control acoustic energy by delivering sound only where needed, supporting compliance with local noise and SPL regulations.

Hybrid systems with beam-steered arrays

Complements electronically steered line arrays (EBS) by handling near-field and transitional coverage areas more efficiently.

Ideal Use Cases

- A. Theaters and performing arts centers
For precise coverage of stalls, balconies, and near-stage seating areas.
- B. Concert halls and auditoriums: As down-fill, side-fill, or out-fill elements to achieve uniform audience coverage without excessive SPL
- C. Houses of worship: Where controlled dispersion and intelligibility are critical, especially in the front seating areas.
- D. Sports venues and multipurpose arenas: to manage complex audience geometries and provide targeted coverage in large or asymmetrical spaces.
- E. Conference centers and convention halls
Supporting clear, focused sound in areas close to the stage or presentation zones.
- F. Permanent installations and touring systems
Suitable for both fixed installations and touring applications requiring flexibility, fast setup, and predictable coverage behavior.

Service

To obtain service:

1. Please have the serial number(s) of the unit(s) available for reference.
2. Contact the official K-array distributor in your country: find the Distributors and Dealers list on K-array website. Please describe the problem clearly and completely to the Customer Service.
3. You will be contacted back for on line servicing.
4. If the problem cannot be resolved over the phone, you may be required to send the unit in for service. In this instance, you will be provided with an RA (Return Authorization) number which should be included on all shipping documents and correspondence regarding the repair. Shipping charges are the responsibility of the purchaser.

Any attempt to modify or replace components of the device will invalidate your warranty. Service must be performed by an authorized K-array service center.

Cleaning

Use only a soft, dry cloth to clean the housing. Do not use any solvents, chemicals, or cleaning solutions containing alcohol, ammonia, or abrasives. Do not use any sprays near the product or allow liquids to spill into any openings.

Technical Specifications

Technical specifications	
Type	Point source
Transducers	Coaxial 12" woofer + 1.7" compression driver
Frequency Response ¹	121 Hz - 18 kHz (-6dB)
Max SPL ²	134 dB (peak)
Rated Power	1200 W
Nominal Impedance	8 Ω
Coverage	User sel. V./H. 30°/90° 90°/30°
Connectors	2x SpeakOn NL4 1+ 1- (signal) ; 2+ 2- (through)

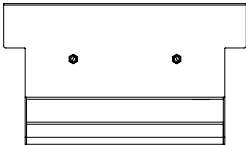
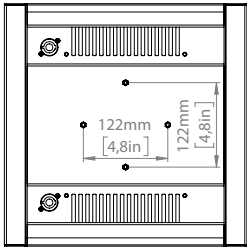
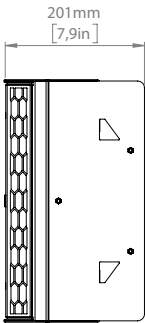
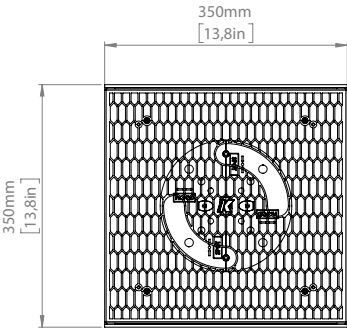
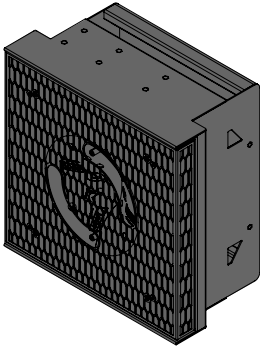
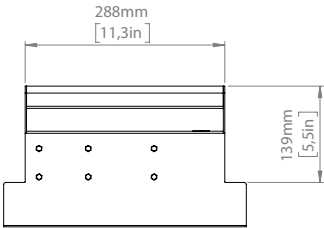
Handling & Finishes	
Material	Stainless Steel
Colors	Black, Custom RAL - Custom Horn
IP Rating ³	IP54
Dimensions (WxHxD)	350 x 350 x 203 mm (13.8 x 13.8 x 8 in)
Weight	14 kg (33.07 lb)

¹ With dedicated preset.

² Maximum SPL is calculated using a signal with crest factor 4 (12dB) measured at 8 m then scaled at 1 m.

³ In case of permanent, long lasting outdoor installation, we recommend to further protect the speaker. Contact K-array directly to discuss best protection practices.

Mechanical Drawings



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