

Keystone-KST110

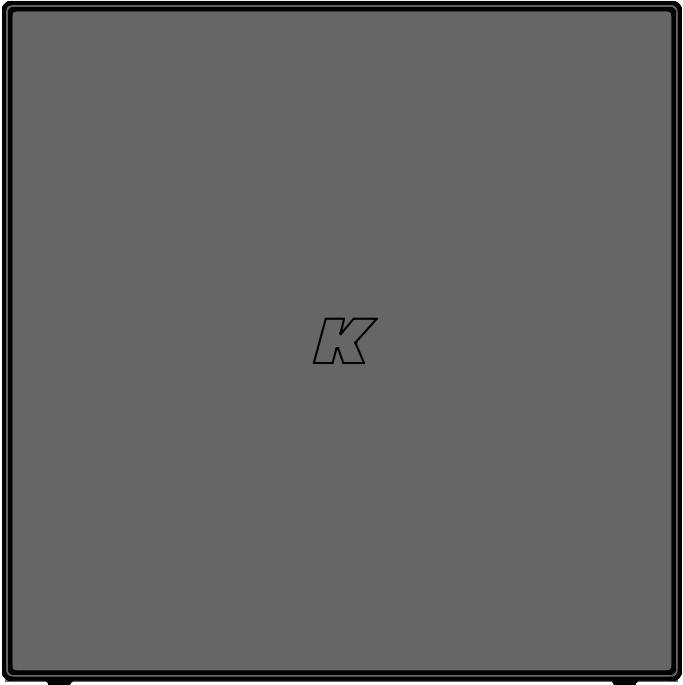
Ultra-slim architectural subwoofer with MM-Force Technology

PRELIMINARY

USER GUIDE



Preliminary



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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 lightning 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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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.

This Quick Guide provides the essential technical information required for the initial setup, safe installation, operation and maintenance of the Keystone-KST110.

Detailed information regarding mounting accessories, installation methods and dedicated mounting solutions will be provided in the complete User Guide.

The Keystone-KST110 is an ultra-slim architectural subwoofer designed for permanent installation applications requiring high-performance low-frequency reproduction within a compact enclosure.

The system features a custom 10-inch shallow-mount transducer coupled with Powersoft's MM-Force® linear motor technology, providing controlled diaphragm movement and efficient low-frequency reproduction across the operating bandwidth.

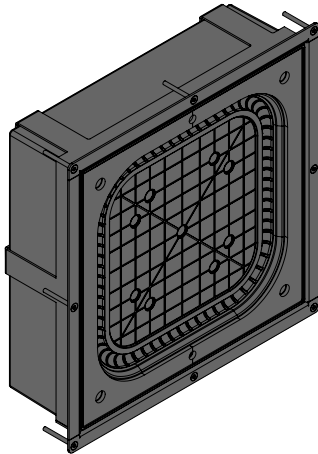
The integration of MM-Force® technology with K-array's enclosure design and architectural installation expertise enables the realization of a compact low-profile subwoofer optimized for discreet integration in permanent installation projects.

With a frequency response extending from 40 Hz to 150 Hz, the KST110 is designed to complement full-range loudspeaker systems in a wide range of installed audio applications, including hospitality venues, corporate environments, retail spaces, cultural facilities and residential projects.

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Key Features

- Ultra-slim enclosure for integration in space-constrained architectural applications.
- High-output low-frequency reproduction with peak SPL up to 119 dB.
- Extended frequency response down to 40 Hz.
- Compact square diaphragm designed to maximize radiating area within a reduced installation footprint.
- Powersoft MM-Force® technology featuring a shallow-profile architecture, high motor force, moving-magnet topology, long linear excursion and low-vibration operation.



Applications

The Keystone-KST110 can be used in a variety of installed sound reinforcement and audio reproduction systems, including:

- Extension of the low-frequency response of full-range loudspeaker systems.
- L-R system configurations paired with K-array loudspeakers.
- Distributed audio systems with enhanced low-frequency coverage.
- Single-subwoofer installations.
- Multi-subwoofer and array configurations for increased output and pattern control.
- Architecturally integrated indoor and outdoor audio systems.

Keystone-KST110

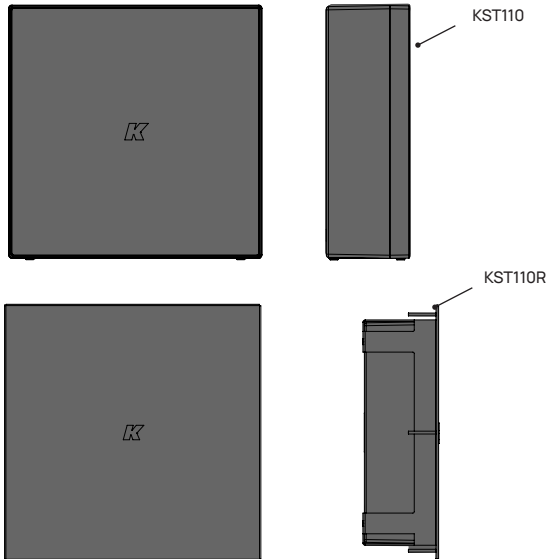
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Product Overview

The Keystone-KST110 is an ultra-slim architectural subwoofer featuring a custom MM-Force® transducer housed in an all-aluminum enclosure with minimum depth.

Main characteristics:

- Ultra-slim design.
- All-aluminum construction.
- Low-vibration operation.
- On-wall and recessed installation options.
- Black, white and custom RAL finishes.
- Optional treatments for outdoor and marine environments.



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MM-Force® Technology by Powersoft

MM-Force® by Powersoft is a low-frequency transducer platform based on a patented Moving Magnet architecture. Unlike conventional loudspeakers, where the voice coil moves within a fixed magnetic field, MM-Force® employs a stationary coil and a moving magnet assembly.

This design provides high motor force and long linear excursion within a compact installation depth. Combined with a compact square diaphragm that maximizes radiating area, it enables efficient low-frequency reproduction from ultra-shallow enclosure designs.

The transducer features an inertially balanced motor architecture that reduces the transfer of mechanical vibrations to the enclosure and surrounding structures. This approach supports accurate low-frequency reproduction while facilitating integration in architecturally sensitive environments where installation depth and structural vibration must be minimized.

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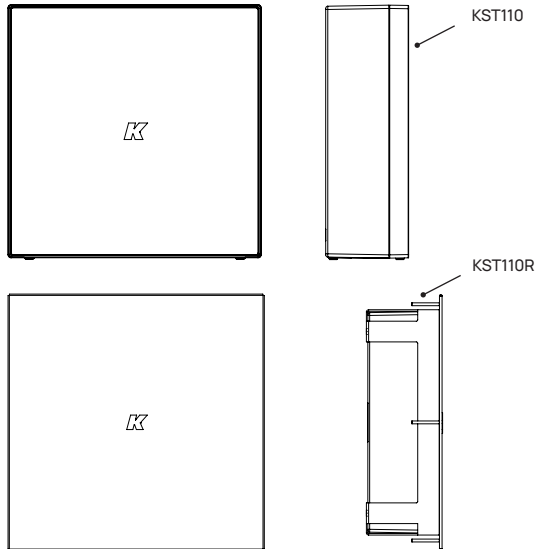
Unpacking

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 Keystone-KST110
- B. 1x Keystone-KST110R



Keystone-KST110

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Getting Started

System Setup

1. System Configuration

- Determine the number of KST110 subwoofers required for the application (e.g. 2.1, 2.2 or distributed audio full-range systems with subwoofer support).
- Position the subwoofer(s) according to the system layout. Configure the associated K-array loudspeakers.
- Dragon-KX2 loudspeakers can be used to create compact full-range systems when combined with the KST110.

2. Subwoofer Positioning

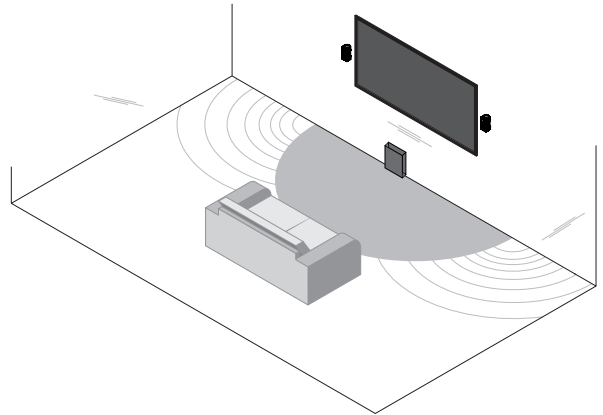
The KST110 can be installed on-wall, recessed within walls or integrated into architectural elements and furniture.

For increased low-frequency output, position the subwoofer close to walls, corners or other boundary surfaces. The reduced transmission of mechanical vibrations to the enclosure and surrounding structures provides greater installation flexibility compared to conventional subwoofer designs.

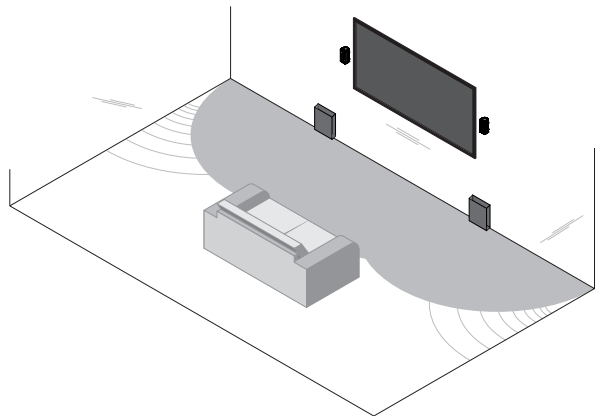
In LR 2.1 or 2.2 configuration: subwoofer placement in front of the listening position is the most common: symmetry is usually welcome, even if not mandatory, especially in configurations of widely distributed loudspeakers.

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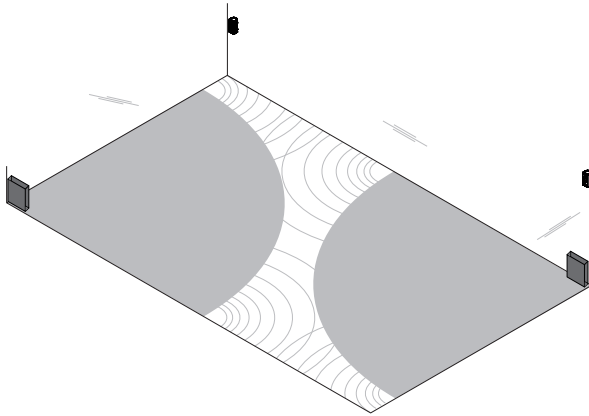
subwoofer central position classic LR 2.1 configuration in Home cinema application



subwoofer central position LR 2.2 configuration



subwoofer angled position distributed system*



*The configuration shown is for illustration purposes only. Additional loudspeakers should be added in the room corners according to the actual system design requirements.

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3. Amplifier Connection

Connect the KST110 according to the amplifier wiring instructions (see "8 Ω Impedance" Ensure the subwoofer is connected using the bridge-mode configuration to the recommended amplifier (see impedance and connections chapter). Verify the wiring polarity before applying signal.

4. Preset Selection

Load the dedicated KST110 factory preset into the amplifier. Verify that the preset has been successfully loaded before operating the system.

5. System Verification

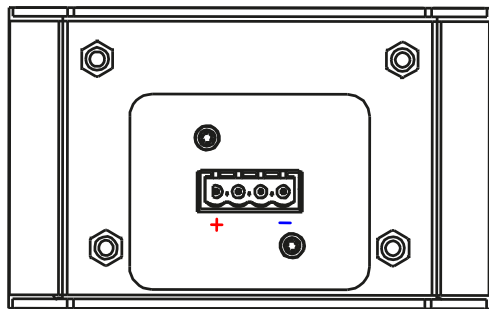
- Verify all loudspeaker connections.
- Apply a low-level signal and confirm correct operation.
- Gradually increase the output level and check system performance.

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Rear Panel

Keystone-KST110 is equipped with a 4-pin Euroblock connector located on the rear/bottom panel for audio signal connection.

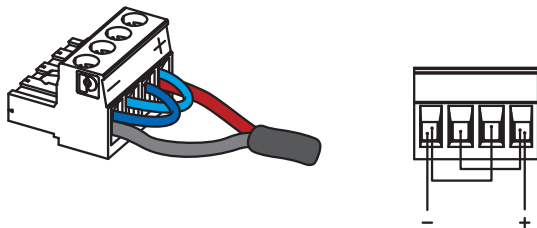


Impedance and connections

Wiring

The two negative terminals and the two positive terminals are internally paralleled, allowing convenient loudspeaker cable termination.

8 Ω Impedance



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Amplifier Channel Matching

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 subwoofer cable to the amplifier:

- When using bridge-mode amplifier configurations, always verify that the resulting loudspeaker load is within the amplifier specifications.
- load the dedicated loudspeaker factory preset on the amplifier DSP.



Keystone-KST110 amplifier compatibility information may not yet be available in the Amplifier Matching Table at the time of publication. Please refer to the latest product documentation or contact [K-array technical support](#) for assistance.



Always check the loudspeaker impedance before connecting the amplifier.



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

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Bridge mode configuration

- Nominal impedance KST110: $8\ \Omega$
 - Standard connection: 1 amplifier channel in bridge mode (Kommander-KA34 is recommended)
 - Connect the positive terminal to one amplifier channel and the negative terminal to the adjacent channel. Verify all connections before operating the system.
 - Amplifier selection: refer to the [Amplifier Matching Table](#) on the K-array website.



Ensure that amplifier loading, bridge-mode configuration and preset selection comply with the system requirements.

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.

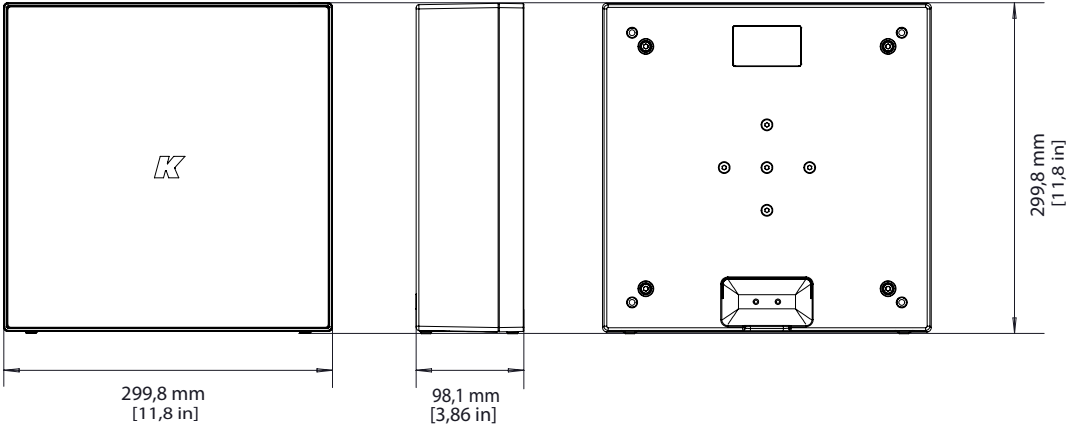
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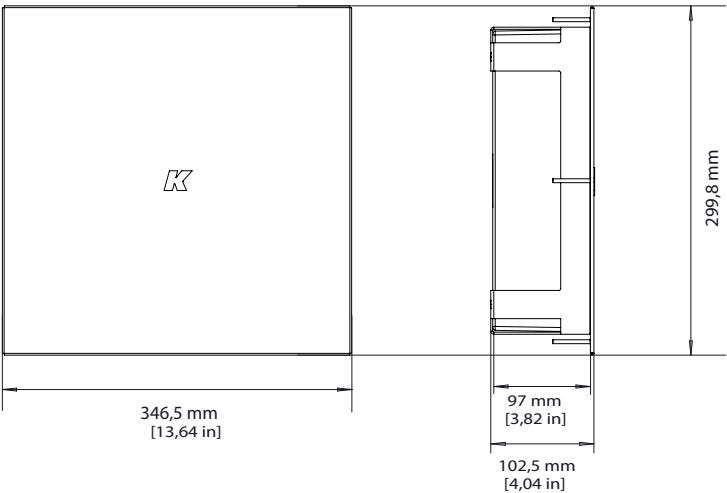
V1

Mechanical Drawings

Keystone-KST110



Keystone-KST110R



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Technical Specifications

Technical specifications	
Type	Ultra-slim subwoofer
Transducers ¹	10" vibrationless shallow subwoofer
Frequency Response ²	195 Hz - 20 kHz (-6dB)
Max SPL ³	119 dB (peak)
Rated Power ⁴	750 W
Nominal Impedance	8 Ω
Coverage	omni
Connectors	4-pin Euroblock connector

Handling & Finishes	
Material	Stainless Steel
Colors	Black
IP Rating	IP65
Dimensions (WxHxD)	KST110 299,8 x 299,8 x 98 mm (11.8 x 11.8 x 3.86 in) KST110R 346,5 x 97 x 299,8 mm (13.46 in x 3.82 x 11.8 in)
Weight	6,6 kg (14.6 lb)

¹ MM-Force (Powersoft) transducer architecture with high motor strenght

² With dedicated preset.

³ Maximum SPL is calculated using a signal with crest factor 4 (12dB) measured at 8 m then scaled at 1 m.

⁴ Dedicated amplifier platform driven the system with 2x channel in bridge mode (+ ch1, - ch2)

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