

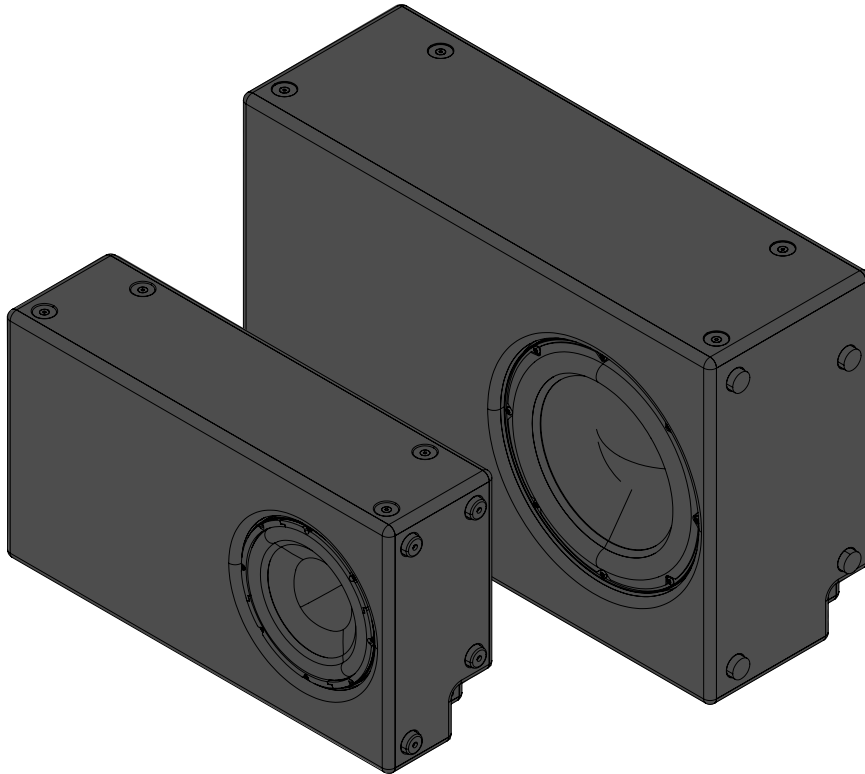
Thunder-KSC

Compact footprint, passive 12", 18" infra-subwoofers

USER GUIDE



V.1.0



K-ARRAY
Unique Audio Solutions

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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.



This apparatus is intended for professional use.

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

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- Use only speaker cables for connecting speakers to the speaker terminals. 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.

Canadian Statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

this device may not cause interference, and

this device must accept any interference, including interference that may cause undesired operation of the device.

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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 product!

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.

Should 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 **Thunder-KSC12P and KSC18P** are high-performance passive infra-subwoofers designed for professional cinema and high-end home entertainment applications. Engineered to reproduce the lowest frequencies of the audible spectrum with authority and control, both models feature high-excursion neodymium drivers housed in compact bass-reflex enclosures acoustically optimized for high sound pressure levels under demanding operating conditions.

Designed for installations where low-frequency effects require physical impact and extended low-end response, the Thunder infra-subwoofers deliver powerful, controlled bass while maintaining a relatively compact footprint for flexible system integration.

Their high efficiency and controlled directivity make them suitable for installation behind projection screens and within dedicated cinema environments, where deep and dynamic low-frequency reproduction is essential for a fully immersive experience.

Both models are intended to complement low-end subwoofers and full-range loudspeaker systems, extending system bandwidth into the infra-frequency region and ensuring complete frequency range reproduction in cinema and theater applications.

Model Overview

Thunder-KSC12P

The Thunder-KSC12P is a passive infra-subwoofer featuring a high-excursion 12" cone driver neodymium magnet equipped with a 3.5" voice coil. Housed in a compact bass-reflex enclosure, the KSC12P is optimized to deliver extended low-frequency response and controlled high SPL output in installations where space is limited but infra-bass reinforcement is required.

Its design makes it particularly suitable for:

Main applications

- Compact cinema rooms
- High-end home cinema installations
- Small theater environments
- Behind-screen installations

Main Features

- Transducer: 12" high-excursion neodymium magnet woofer with voice coil: 3.5"
- Frequency Response: 24 Hz – 150 Hz (-6 dB)
- Maximum SPL (peak): 126 dB
- Power Handling: 1200 W
- Nominal Impedance: 4 Ω
- Coverage: Omni
- Enclosure: Bass-reflex, wood construction
- Dimensions (W x H x D): 900 x 500 x 250 mm
- Weight: 26 kg
- Color: Black
- IP Rating: IP40 - indoor applications

Thunder-KSC18P

The Thunder-KSC18P is a passive infra-subwoofer equipped with a high-excursion 18" neodymium magnet cone driver featuring a 4.5" voice coil. Designed for maximum low-frequency extension and higher output capability, the KSC18P reaches down to 15 Hz (-6 dB), making it particularly suitable for large cinema rooms and installations requiring extreme low-frequency performance. Its acoustically optimized bass-reflex enclosure ensures high SPL capability while maintaining controlled and precise infra-bass reproduction.

Main Applications

- Medium to large cinema auditoriums
- Professional cinema installations
- Large theater environments
- Behind-screen installations

Main Features

- Transducer: 18" high-excursion cone driver with neodymium magnet voice coil: 4.5"
- Frequency Response: 15 Hz – 150 Hz (-6 dB)
- Maximum SPL (peak): 134 dB
- Power Handling: 3600 W
- Nominal Impedance: 4 Ω
- Coverage: Omni
- Enclosure: Bass-reflex, wood construction
- Dimensions (W x H x D): 1100 x 700 x 380 mm
- Weight: 53 kg
- Color: Black
- IP Rating: IP40

Unpacking

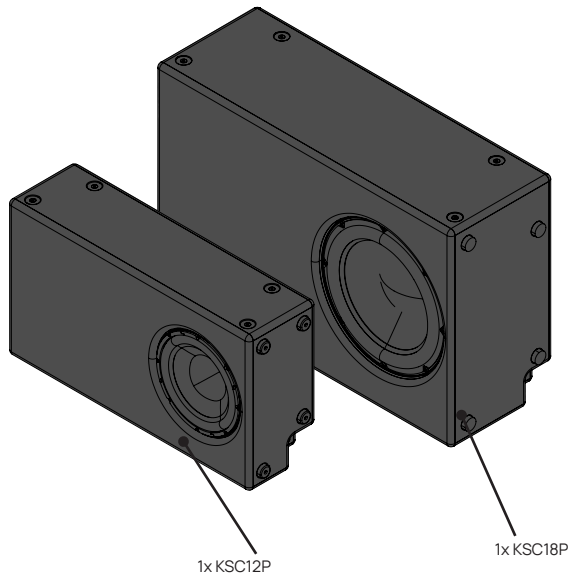
Each Thunder infra-subwoofer is carefully inspected before leaving the factory.

Upon receiving the product:

1. Inspect the shipping carton for visible damage.
2. Carefully unpack the unit.
3. Verify that the enclosure has not been damaged during transportation.
4. Check that the connectors and rear panel are intact.

If any damage is detected, immediately notify the shipping company. Retain all packaging materials for inspection.

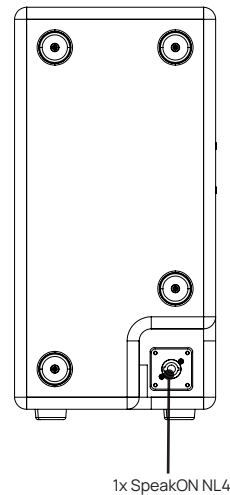
It is recommended to keep the original packaging for future transportation or service purposes.



Connections (Rear panel)

Both Thunder-KSC12P and Thunder-KSC18P are passive infra-subwoofers and require an external power amplifier suitable for low-frequency reproduction.

Connection is made via a SpeakON NL4 connector located on the rear panel of the enclosure.



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The loudspeaker is internally wired using:

- Pins 1+ 1–
- Pins 2+ 2– not connected.

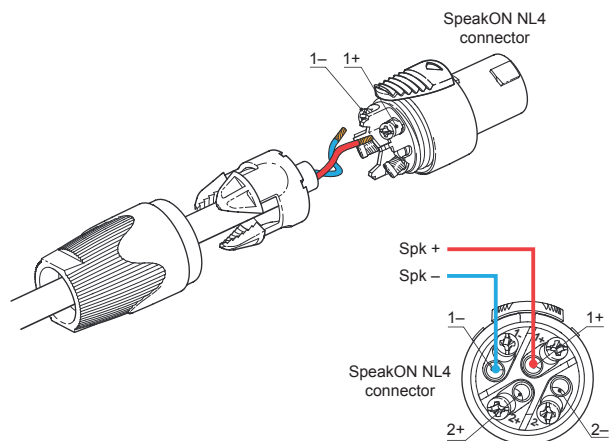
The connector can accept either:

- 2-pole SpeakON cable connectors
- 4-pole SpeakON cable connectors

When using a 4-pole connector, only pins 1+ and 1– are active

SpeakON	KSC12P KSC18P	
A	1+ 1–	SIGNAL / IN
	2+ 2–	Not connected

Suwoofer wired NL4 1+ 1–



Wiring

- To ensure proper operation and prevent damage:
- Use high-quality loudspeaker cables with adequate conductor cross-section.
- Verify correct polarity before powering the amplifier.
 - Connect amplifier positive output to 1+.
 - Connect amplifier negative output to 1–.
 - Ensure that pins 2+ and 2– are not used.



Incorrect polarity may result in phase cancellation when multiple low-frequency systems are used in the same installation.

Amplifier selection

When selecting an amplifier be sure to use one capable of delivering appropriate power at 4 Ω nominal impedance. Ensure that DSP processing, including high-pass filtering and limiting, is properly configured according to the system design. When using K-array amplifiers, this is provided by the dedicated factory loudspeaker preset.

When selecting the amplifier and configuring the system, ensure that the total load impedance of the connected loudspeakers does not fall below the minimum load impedance supported by the amplifier.

The amplifier should be capable of delivering adequate power while maintaining stable and reliable operation.

Subwoofer power requirements and Impedance

Model	Impedance	Rated Power
KSC12P	4 Ω	1200W
KSC18P	4 Ω	3600W

Recommended Amplifier

For optimal performance and system reliability, the following K-array amplifiers are recommended:

- Kommander-KA104 or Kommander-KA104LIVE
- Kommander-KA68
- Kommander-KA208 or Kommander-KA208LIVE

Amplifier	Channels	Power x CH @4 Ω
Kommander-KA104 or Kommander-KA104LIVE	4	2500W
Kommander-KA68	8	750W
Kommander-KA208 Kommander-KA208LIVE	8	2500W

System Design Guidelines

The Thunder KSC12P and KSC18P infra-subwoofers are designed to reproduce the lowest frequencies of the audio spectrum and are typically integrated into professional cinema sound systems or high-performance low-frequency reinforcement systems.

Proper system design and configuration are essential to achieve optimal low-frequency performance, system efficiency, and acoustic integration with the main loudspeaker system.

The following guidelines provide general recommendations for integrating the infra-subwoofer into a complete audio system.

Infra-Subwoofer Integration

Infra-subwoofers are used to extend the low-frequency response of the system below the operating range of the main subwoofer system.

In cinema and high-performance home theater installations, the infra-subwoofer enhances the reproduction of the lowest frequencies of the LFE channel, increasing the physical impact of low-frequency effects.

Proper system integration is ensured by using the dedicated factory loudspeaker preset available for the Thunder infra-subwoofers on Kommander-KA amplifiers and integrated Web-App control.

Subwoofer Placement

In cinema and home cinema installations, infra-subwoofers are typically positioned at the front of the room, close to the screen wall, in order to maintain acoustic coherence with the front loudspeaker system and the subwoofer system reproducing the LFE channel.

Common installation positions include:

- Behind the projection screen
- Inside a baffle wall structure
- Along the front wall of the room

In professional cinema installations, subwoofers and infra-subwoofers are often integrated into the screen wall or baffle wall, allowing them to operate in close acoustic alignment with the screen channel loudspeakers (Left, Center, Right).

Placing the infra-subwoofer near the front loudspeaker system helps maintain proper localization of low-frequency effects and ensures consistent integration with the overall low-frequency system.

Whenever possible, infra-subwoofers should be positioned symmetrically with respect to the room layout, listening area, and the position of the main loudspeaker system.

Room acoustics and boundary interactions can significantly influence low-frequency performance. For this reason, the final placement should be evaluated according to the acoustic characteristics of the room and the specific system design.

Cinema and Home Theater Design standards

When designing cinema or high-end home theater systems, loudspeaker placement is typically defined according to established industry standards in order to ensure a consistent and accurate listening experience.

Professional installations commonly follow the recommendations defined by Dolby®, which provide a structured approach to the overall system layout.

These recommendations generally address aspects such as:

- positioning of screen channels (Left, Center, Right)
- placement of surround loudspeakers
- listening area geometry and coverage
- management of low-frequency and LFE reproduction.

The configurations presented in this document are developed in alignment with these established practices and are intended as general reference solutions.

Example System Configuration

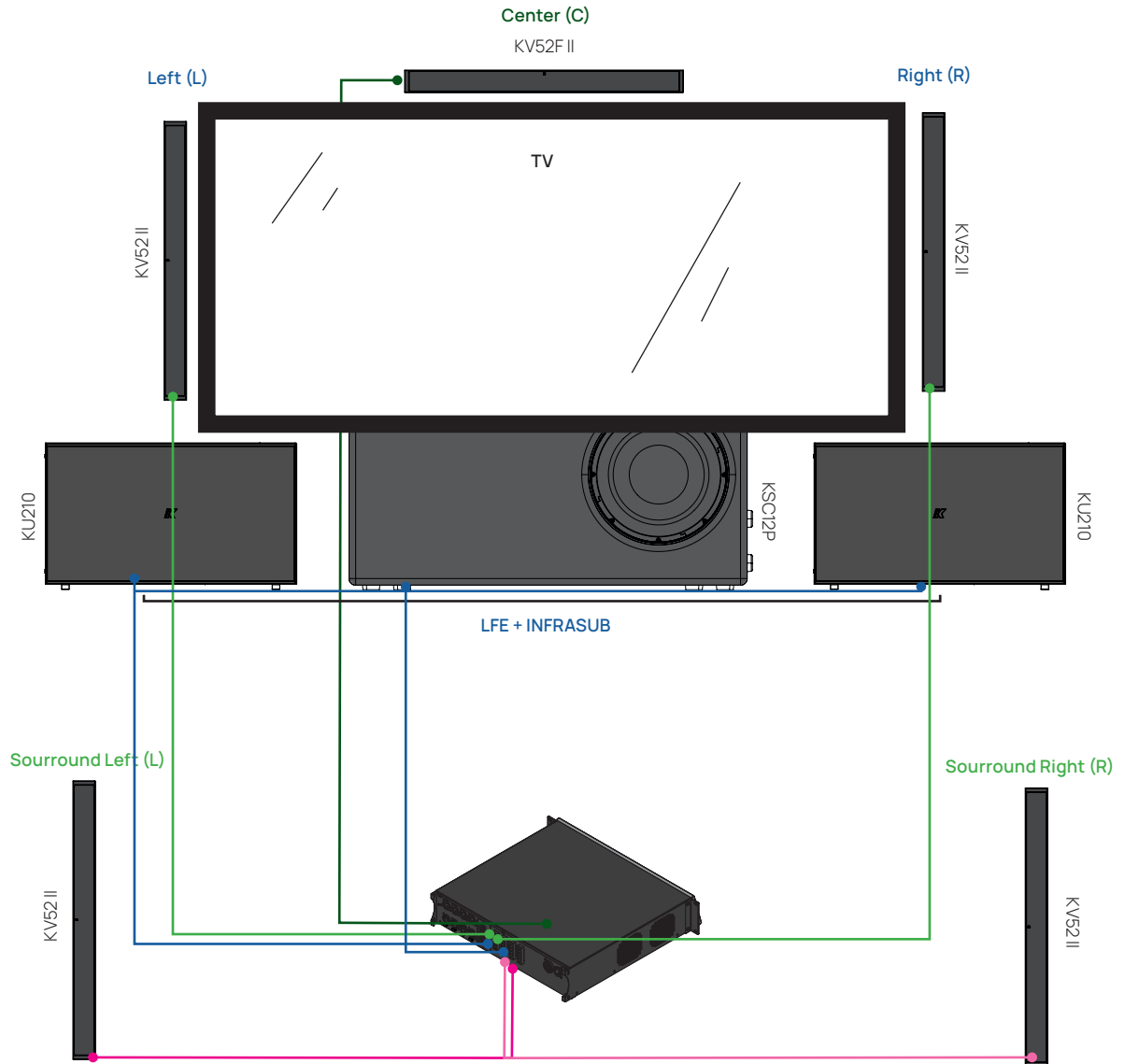
Home Cinema (5.1)

A typical 5.1 home cinema configuration may include the following loudspeakers:

Channel	Loudspeaker model
Left (L)	Vyper-KV52 II
Center (C)	Vyper-KV52F II
Right (R)	Vyper-KV52 II
Sourround Left (SL)	Vyper-KV52 II
Sourround Right (SR)	Vyper-KV52 II
Subwoofer LFE	2x KU210 II
Infrasubwoofer extensione	1x KSC12P

In this configuration, the KU210 subwoofer reproduces the main low-frequency range of the system and the LFE channel, while the KSC12P infra-subwoofer extends the response toward the lowest frequencies, enhancing the physical impact of low-frequency effects.

NOTE: Typical Dolby® cinema system configurations commonly employ full-range screen loudspeakers combined with dedicated subwoofer systems. The configurations presented in this guide illustrate an alternative system approach using K-array line-array loudspeakers combined with dedicated subwoofer and infra-subwoofer systems to achieve full-range audio reproduction.



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Professional Cinema Installations

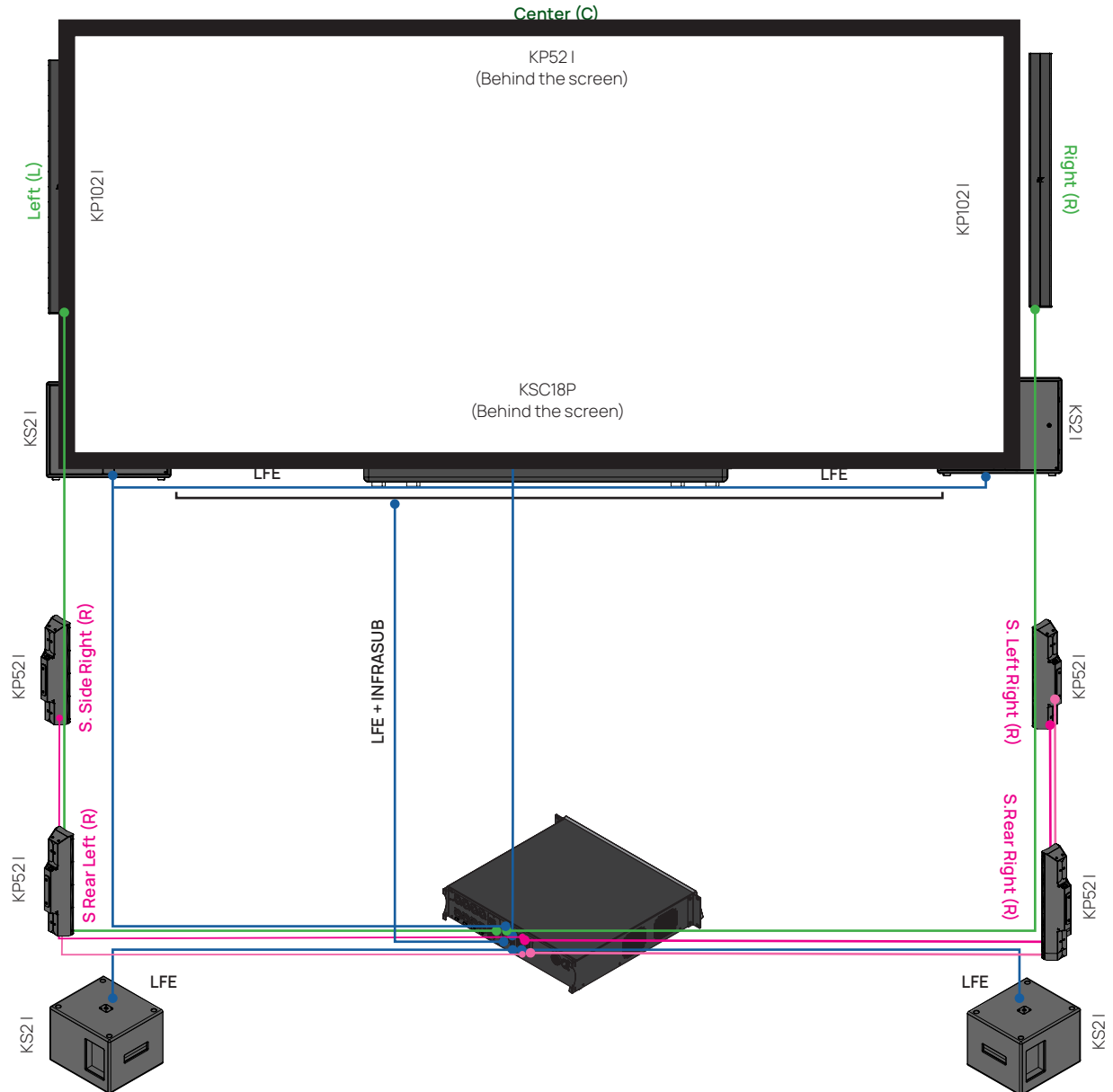
For large cinema environments requiring high sound pressure levels and extended low-frequency performance, the Thunder KSC18P infra-subwoofer can be integrated into professional cinema sound systems.

A cinema configuration (Dolby 7.1) may include:

Channel	Loudspeaker model
Left (L)	(2x) Python-KP102 I
Center (C)	(2x) Python-KP52 I**
Right (R)	(2x) Python-KP102 I
Sourround Side Left (SL)	Python-KP52 I
Sourround SideRight (SR)	Python-KP52 I
Sourround Rear Left (RL)	Python-KP52 I
Sourround Rear Right (RR)	Python-KP52 I
Subwoofer LFE	4x KS2P I
Infrasubwoofer extensione	1x KSC12P

*KP52 I in flood mode, installed above and below and behind the screen

** For clarity and space constraints, the loudspeaker installed below the screen is not shown in the diagram.



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 RMA (Return Material Authorization) number which should be included on all shipping documents and correspondence regarding the repair. Shipping charges are the responsibility of the purchaser.

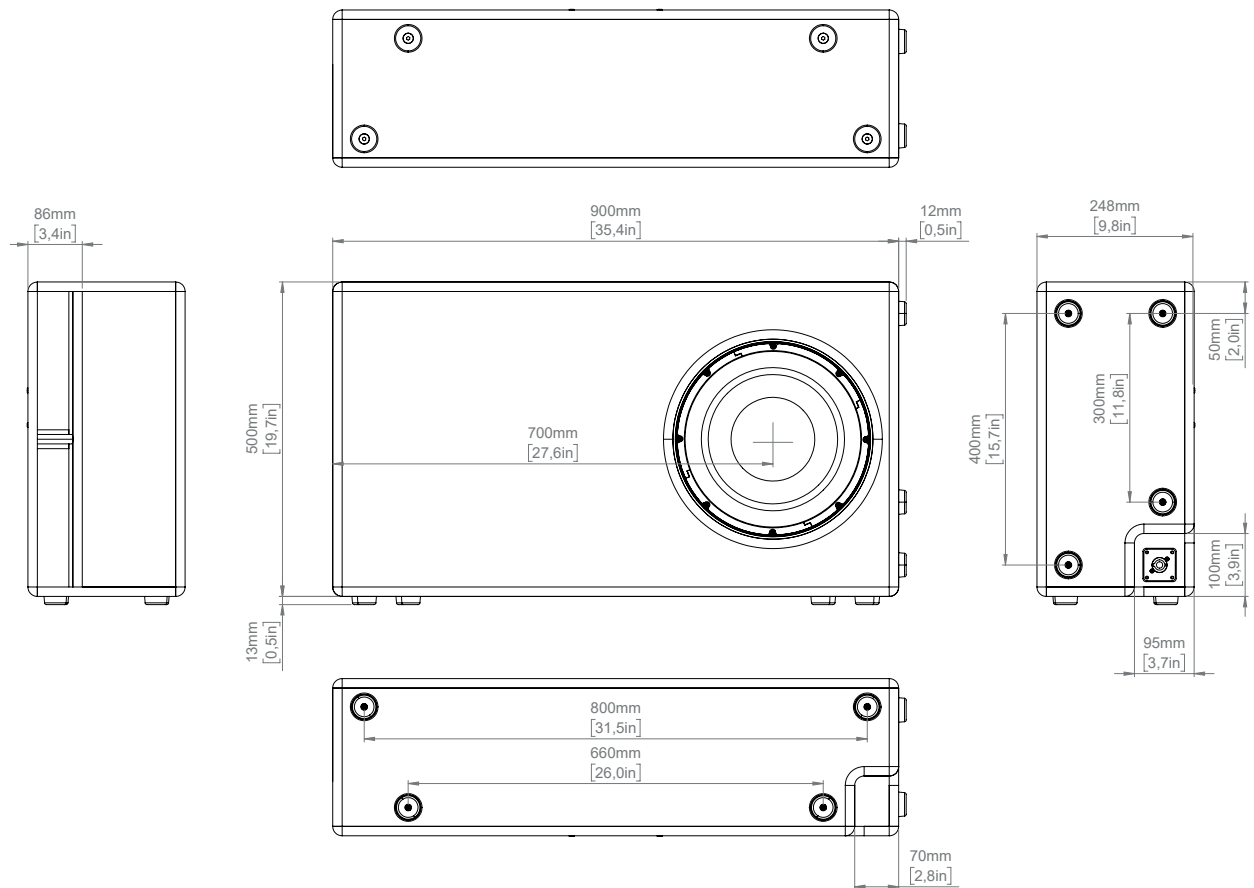
Any attempt to modify or replace components of the device will invalidate your warranty. Service must be performed by an authorized K-array service center.

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.

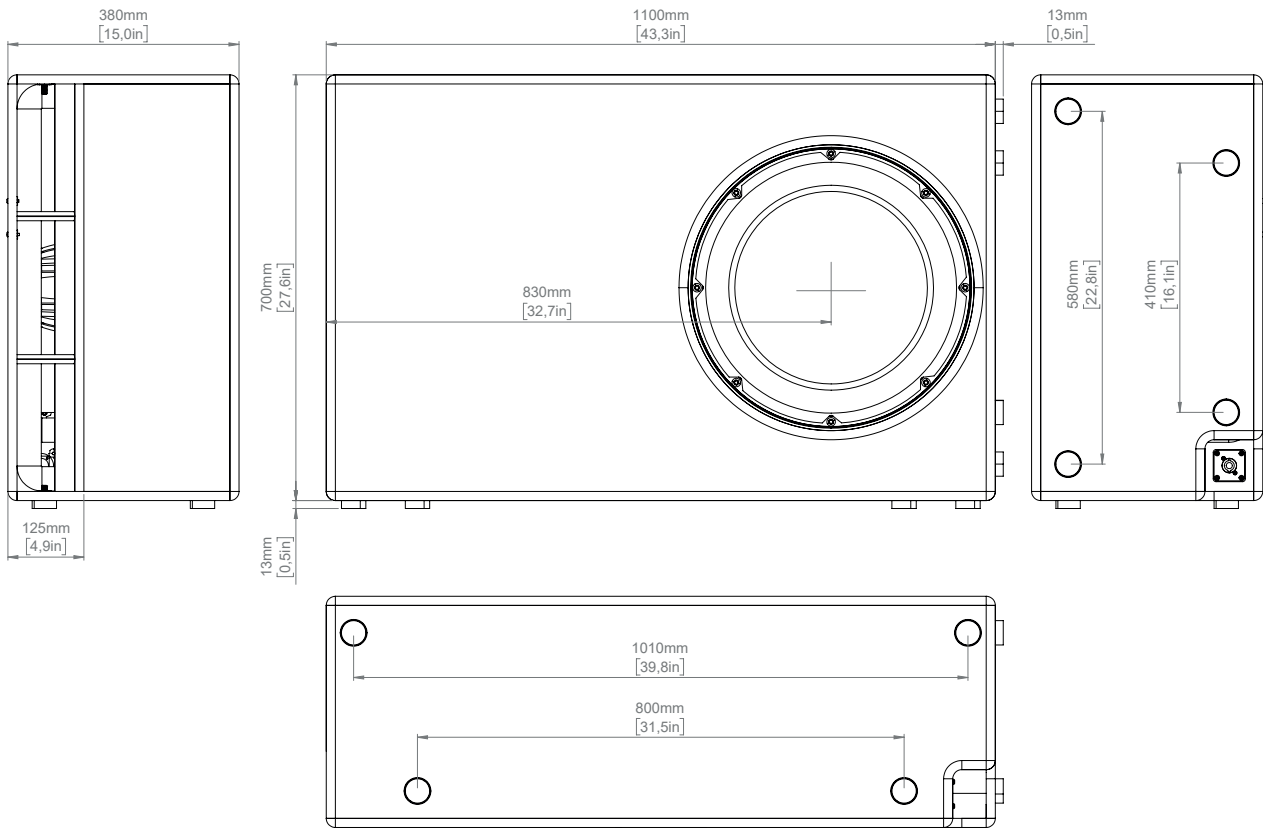
Mechanical drawings

Thunder-KSC12P



Mechanical drawings

Thunder-KSC18P



Technical Specifications

Thunder-KSC12P

Technical specifications	
Type	Passive infra subwoofer
Transducers	12" neodymium magnet woofer 4.5" voice coil
Frequency Response ¹	24 Hz - 150 (-6 dB)
Max SPL ²	126 dB (peak)
Rated Power	1200 W
Coverage	Omni
Nominal Impedance	4 Ω
Connectors	SpeakON NL4

Handling & Finishes	
Material	Wood
Colors	Black
IP Rating	IP40
Dimensions (WxHxD) ⁴	(W x H x D): 900 x 500 x 250 mm (35.43 x 19.68 x 9.84 in)
Weight	26 kg (57,32 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.

Thunder-KSC18P

Technical specifications	
Type	Passive infra subwoofer
Transducers	18" neodymium magnet woofer 4.5" voice coil
Frequency Response ¹	15 Hz - 150 (-6 dB)
Max SPL ²	134 dB (peak)
Rated Power	3600 W
Coverage	Omni
Nominal Impedance	4 Ω
Connectors	SpeakON NL4

Handling & Finishes	
Material	Wood
Colors	Black
IP Rating	IP40
Dimensions (WxHxD) ⁴	(W x H x D): 1110 x 700 x 380 mm (43.3 x 27.6 x 15 in)
Weight	53 kg (116,85 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.

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