AUDIOTECHNIK

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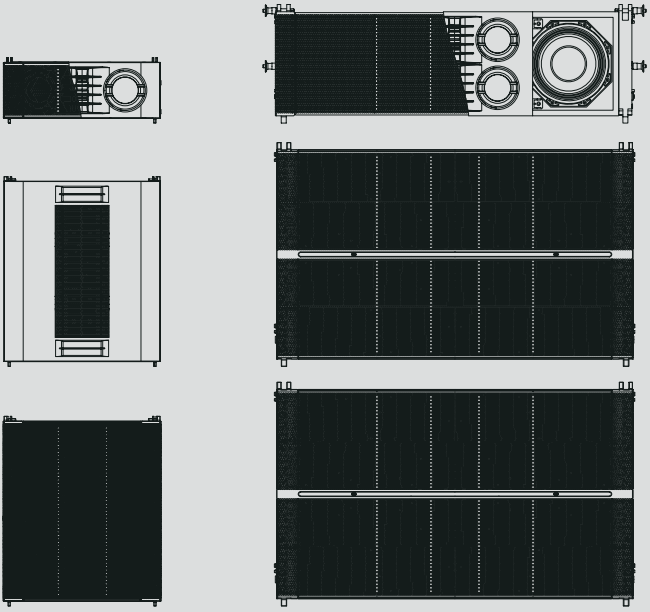
L-LINE

LOUDSPEAKERS



MANUAL

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THANK YOU FOR CHOOSING S)))e AUDIOTECHNIK.

We are happy to be the solution for your sound reinforcement needs with our professional loudspeaker systems. The system you have purchased is based on more than 20 years of experience as a speaker manufacturer and more than 40 years as a speaker developer. It is the sum of German precision and Chinese efficiency that guarantees a high-quality and reliable SE AUDIOTECHNIK product.

Please, take the time to carefully read this manual and follow its instructions. It will allow you to get the most out of your product under safe operating conditions and suggest some care instructions leading to long-term endurance. Keep this manual in a safe place for further reference!

If you find any mistakes or have further questions or suggestions, please contact us at **info@se-audiotechnik.de**.

For more information about **SE AUDIOTECHNIK** products, visit our website **www.se-audiotechnik.de**. There you will also find the latest updates to manuals, firmware and technical documents for additional support.

LIST OF CONTENTS

SAFETY AND PRECAUTIONS

The products described in this manual have been engineered and manufactured to ensure your personal safety. However, **IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK, FIRE HAZARD AND OTHER HEALTH RISKS**. Always follow the basic precautions listed here to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following items in this chapter.

ELECTRICAL SAFETY PRECAUTIONS

DO NOT EXPOSE THE STANDARD VERSION OF THE PRODUCTS AND ESPECIALLY THEIR CONNECTOR PANEL TO RAIN OR MOISTURE, DRIPPING OR SPLASHING LIQUIDS. OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

EXTERNAL POWER AMPLIFIERS DRIVE THE PRODUCTS DESCRIBED IN THIS MANUAL. SPEAKER CABLES CAN CARRY SIGNALS WITH HIGH VOLTAGE AND CURRENT. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT TOUCH OPEN ENDS OF THOSE CABLES WHILE AMPLIFIERS ARE WORKING AND CONNECTED TO THE MAINS. ALWAYS ENSURE THAT CABLES, PLUGS AND CONNECTORS ARE IN A GOOD CONDITION.

IMPORTANT SAFETY INSTRUCTIONS

1. Keep these instructions.
2. Read these instructions.
3. Follow thoroughly all instructions.
4. Heed all warnings.
5. Use the product only for the purpose intended by the manufacturer.
6. Use the product only if you are familiar with the product and its application.
7. Observe applicable rules and regulations at the place of use.
8. Do not expose the device directly to rain, moisture or other liquids. Keep it away from water and do not place objects filled with liquids on it. Deviating from this, within the scope of the technical descriptions, are special versions for outdoor use or specific environmental conditions.
9. Clean the device just with a dry cloth and only after disconnecting it from the power amplifier. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.
10. Keep away from objects, which may be impaired by an external magnetic field. To avoid the damage of equipment such as computers, video monitors and magnetic data carriers, they should be located at least 1 meter away.
11. Only use safety pins, attachments, accessories and adapters specified and/or provided by the manufacturer.
12. Do not block any ventilation openings and keep away from any heat sources such as radiators, heat registers, or other equipment (including amplifiers) that produce heat.
13. Do not insert your fingers, hands or any other foreign objects into any gaps or openings of the device.
14. Do not attempt to open any part of the unit. There are no user-serviceable parts inside.
15. Refer all servicing to qualified service personnel. This is required when the product has been damaged in any way, such as connector plug is impaired, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been severely dropped.
16. When the product reaches its end of life, take it to the right collection point designated by local authorities. The appropriate collection and recycling at the time of discarding will ensure it is properly disposed and will help to conserve natural resources, protect human health and preserve our environment.

GRAPHICAL SYMBOLS ON THE PRODUCT

The exclamation point triangle is used to alert the user to important operating or maintenance procedures and instructions, which are described in the manual.

The CCC mark indicates the conformity with the relevant Chinese directives for safety, health and environmental protection.

The CE mark indicates the conformity with the relevant EU directives for safety, health and environmental protection. See the Manufacturer's Declaration section.

Symbol for conformity with Directive 2002/96/EC and Directive 2003/108/EC of the European Parliament, on waste electrical and electronic equipment (WEEE).

GRAPHICAL SYMBOLS IN THIS MANUAL

Symbol to alert the user about important operating or maintenance instructions.

Symbol for important concepts and information for a better understanding of the functioning of the product.

Symbol for practical tips and ideas useful to ensure the correct use of the product and improve its operation.

NOISE EXPOSURE PRECAUTIONS

PRODUCTS DESCRIBED IN THIS MANUAL CAN RADIATE HIGH SOUND PRESSURE LEVELS (SPL), WHICH CAN LEAD TO IRREVERSIBLE HEARING DAMAGE. SE AUDIOTECHNIK RECOMMENDS RESPECTING THE TIMES OF EXPOSURE TO HIGH SPL.

Noise level (dBA)	85	94	97	112	127
Max. recommended exposure time per 24 hours	**8 hrs.**	**1 hr.**	**30 min.**	**56 sec.**	**1 sec.**

Noise exposure recommendations according to US National Institute for Occupational Safety and Health (NIOSH).

PACKAGE CONTENTS

The packaging of the each **L-Line loudspeaker** includes:

- 1 unit
- 1 user manual
- 1 QC PASS card
- 1 Warranty card

Please inspect your product packaging before unboxing it. If it has been damaged during shipping, unbox the product and check for any visual damage before using it. Notify the shipping company immediately and contact your SE AUDIOTECHNIK dealer or support center for help and assistance.

Finally, save the shipping carton as evidence for the possible claim, which only you can request. We also recommend you to keep all the packing materials and contents for any further transportation.

INTRODUCTION

The L-Line is our compact and scalable line array system for installers, rental companies and professional performers. With full system control and the possibility to combine L-Line elements in a flexible way, the system can be perfectly adapted to project needs and changing requirements. The L-Line speakers are available in an outdoor and indoor version. L-Line System Amplifiers deliver the power and functionality to operate L-Line systems. These modern class-D amplifiers provide tailormade settings, matched power, network control and optional network audio. The L-Line system amplifiers follow an intuitive operation workflow, either with their integrated touchscreen or the remote control software "SE Mission Control" or even both.

The L-Line system consists of the following:

- **L 65:** 3-way passive line array cabinet.
- **L 65 FS:** Passive flyable subwoofer.
- **L 35:** Compact passive 2-way line array cabinet.
- **L 35 FS:** Compact passive flyable subwoofer.
- **L-Line rigging elements and accessories:** Available rigging parts and accessories are explained and detailed in the "L-Line Rigging and Accessories" user manual.
- **LA 10.4D:** Dedicated L-Line System Amplifier.
- **SE Mission Control:** L-Line network remote control software. More information are available in the "SE Mission Control" user manual and on our website www.se-audiotechnik.de .

L 35

L 35 FS

LA 10.4D

L 65

L 65 FS

SE Mission Control

Figure 1. L-Line System.

L-LINE LINE ARRAY SYSTEM

The L-Line Line Array System is designed to provide flexibility in combining line array elements to build a system that meets venue requirements and conditions. All L-Line speaker models are equipped with an integrated rigging system. **L 65** products features a four-point rigging system whereas **L 35** products benefit from a lightweight three-point rigging system.

The bumper frame **L 65 BF** allows for flying **L 65** and **L 65 FS** cabinets. The bumper frame **L 35 BF** allows for flying **L 35** and **L 35 FS** cabinets. In addition, **L 65** and **L 65 FS** can also be ground-stacked using **L 65 BF** bumper frame.

The under frame adapter **L 65 UFB** offers the opportunity to add **L 35** cabinets to any **L 65** element. With this option, it is possible to extend the main line array with additional downfills to increase vertical coverage.

With the **L 35 UB** bracket, you can use L 35 cabinets with a pole mount. The optional **SPS 20** M20 pole support allows attaching a **L 35** stack to any subwoofer with a M20 thread. **L 35** stacks can be great as side-fills or as a small main PA system. There are additional frames available to stack **L 35** cabinets directly onto **B-Line B 15/A** or **B 18/A**. More information and instructions are covered in the B-Line manuals.

The SE AUDIOTECHNIK rigging system and related accessories provide mechanical safety and functionality to stack and suspend line arrays. Adjustable splay angles and various mounting options offer high precision when defining the curvature of the line array.

PLEASE READ THE DEDICATED L-LINE RIGGING MANUAL BEFORE USING ANY L-LINE UNIT AND RELATED HARDWARE. IT IS MANDATORY TO FOLLOW ALL INSTRUCTIONS IN THE USER MANUALS AND TO COMPLY WITH ALL RULES AND REGULATIONS OF AUTHORITIES AND VENUES. CERTIFIED, AUTHORIZED AND TRAINED PERSONNEL MAY ONLY CARRY OUT THE ASSEMBLY, RIGGING, STACKING AND SUSPENSION.

L-LINE SYSTEM AMPLIFIER

The **L-Line System Amplifier** provides efficient power to drive **L-Line speaker systems**. The integrated DSP, network remote control and optional network audio offers the possibility to control every detail of the line array system. The interface (Touchscreen and Software) allows real-time control and monitoring of gain, delay, mute and equalization for each channel. Custom controllers allow parameters to be grouped and changed as needed for easy and instant audio and performance management. Factory and user presets, as well as the Easy Mode approach assists with set-up and operation.

For more details on the functions and operation, refer to the L-Line System Amplifier manual and the software manual for "SE Mission Control".

LOW FREQUENCY EXTENSION

SE AUDIOTECHNIK **B-Line** passive and self-powered subwoofers **complement** the **L-Line system** in the low frequency range. The B-Line subwoofers are included in the preset structure and configuration of the software and amplifier, so they can be easily and precisely combined and adjusted. Additional rigging options, like the stacking frame **B 15/18 SFi L35** for **L 35** cabinets or the bumper frame **B 15A FS BF** to build a flown subwoofer array, extend the application possibilities of the L-Line system.

Please, read thoroughly the additional documentation related with the L-Line and B-Line, available on our website www.se-audiotechnik.de. User manuals, technical documentation and application guides containing valuable information are available in the download area and may give a better understanding of our products and their capabilities.

LOUDSPEAKERS

L 35

Extremely compact line array cabinets composed by two 3.5" drivers and a horn-loaded 1" compression driver, offering a horizontal and vertical directivity of 100°x20° respectively with a weight of only 3.6 kg.

With a nominal impedance of 16 Ω, audio signals are input and linked through two speakON® NL4 connectors. The three-point rigging system is secured with 6 mm SE AUDIOTECHNIK locking pins and allows to set 0º, 2.5º, 5º, 7.5º and 10º splay angles between the cabinets.

The indoor version uses a vented-box. The outdoor version, **L 35 R**, has sealed rear panels for a closed-box configuration. It includes also a front steel grille and weatherproof connectors. Both versions are available in black and white colors.

REAR PANEL

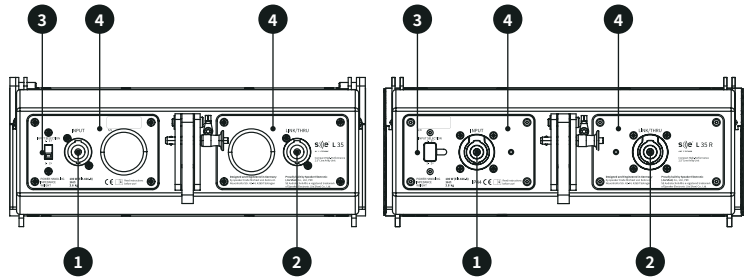

Figure 2. Rear panel of the **L 35** (left) and **L 35 R** (right) units.

1. **Input.** Audio signal input through speakON® NL4 connector. **L 35 R** uses weatherproof NLT4* connectors.
2. **Link/Thru.** Audio signal link through speakON® NL4 connectors, wired in parallel and thus sharing the same signals. **L 35 R** uses weatherproof NLT4* connectors.
3. **Input source.** Switch to select the source of the input signal from the NL4 connector (1+/1- or 2+/2-). The signal chosen is the one delivered to the transducers.
4. **Indoor/Outdoor rear plate.** Specific plate according to the type, which is sealed in **L 35 R** models for outdoor applications.

L 35 FS

This compact flyable subwoofer comprises one 8" woofer in a vented enclosure and supplements perfectly **L 35**. With an 8 Ω impedance, it admits and passes audio signals through two speakON® connectors, and uses a three-point rigging system with 6 mm SE AUDIOTECHNIK locking pins.

Having the same width to match **L 35** cabinets, this subwoofer is made of plywood and weighs only 9.1 kg.

Same as **L 35 R**, the outdoor version **L 35 FS R** has weatherproof connectors and includes an additional front grille. Both versions are available in black and white colors.

REAR PANEL

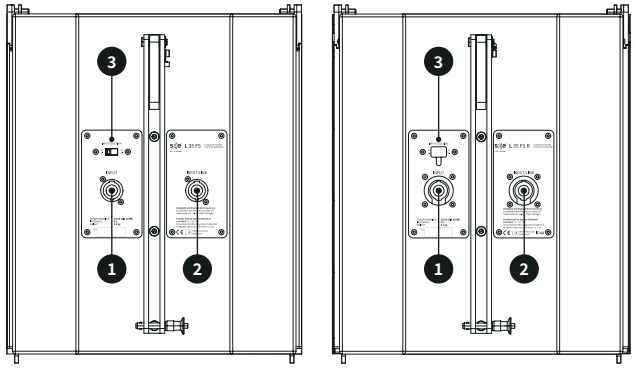

Figure 3. Rear panel of the **L 35 FS** (left) and **L 35 FS R** (right) units.

1. **Input.** Audio signal input through speakON® NL4 connector. **L 35 FS R** uses weatherproof NLT4* connectors.

2. **Input / Link.** Audio signal input and link through speakON® NL4 connector, both wired in parallel and thus sharing the same signals. **L 35 FS R** uses weatherproof NLT4* connectors.

3. **Input source.** Switch to select the source of the input signal from the NL4 connector (1+/1- or 2+/2-). The signal chosen is the one delivered to the woofer.

With a single NL4 cable, it is possible to send independent signals to **L 35 FS** and/or **L 35** cabinets in the same array. Then, the input switch on each unit allows selecting the pins carrying the signal it must reproduce.

L 65

The **L 65** cabinets are equipped with two 6.5" woofers, four 3.5" drivers and two 1" compression drivers loaded each with a wide coverage horn. The unit offers a horizontal and vertical directivity of 100°x20° respectively. The 3-way passive crossover network sets a nominal input impedance of 12 Ω.

Its rear plate includes two speakON® NL4 connectors for Input and Link signals, and two heatsink panels for improved internal thermal control. Additionally, it is equipped with a four-point rigging system, which allows 0º, 1º, 2º, 3º, 4º, 6º and 8º splay angles and is secured with 8 mm SE AUDIOTECHNIK locking pins.

Weighing 22.7 kg, each box is made of plywood and painted with black or white* polyurea coating. The protective front steel grille is finished with the same color as the box, giving it also an aesthetical visual appearance.

Finally, L 65 R version includes weatherproof NLT4* connectors and its additional steel grille covers completely the front side.

*White color on request.

REAR PANEL

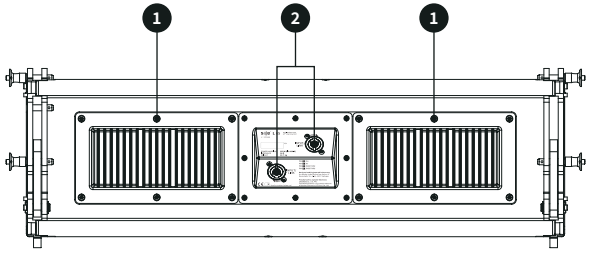

Figure 4. L 65 and **L 65 R** rear panel.

1. Heatsink panels.

2. **Input / Link 1 - 2.** Audio signal inputs and links through speakON® NL4 connectors, both wired in parallel and thus sharing the same signals. Pins 1+/1- of both NL4 are connected to the transducers. **L 65 R** version uses weatherproof NLT4* connectors.

L 65 FS

The flyable subwoofer **L 65 FS** consists of a 15" woofer with 8 Ω impedance, housed in a vented enclosure and offers low-frequency extension for **L 65/R**. Following the L-Line design, it includes a four-point rigging system, which allows 0°, 1°, 2°, 3°, 4°, 6° and 8° splay angles and uses 8 mm SE AUDIOTECHNIK locking pins.

Having the same width to match **L 65** cabinets, this subwoofer is made of plywood and weighs only 30 kg.

L 65 FS R version includes weatherproof connectors and front grille.

REAR PANEL

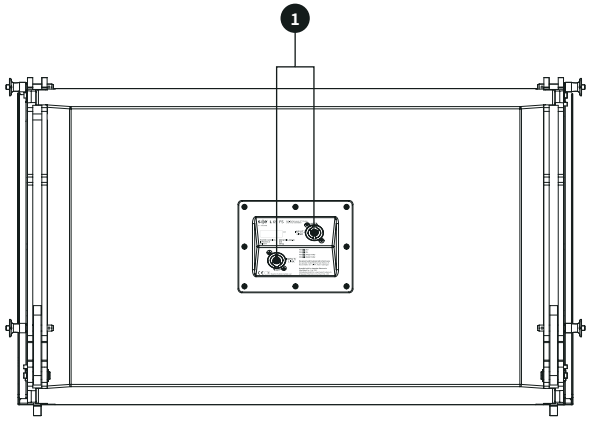

Figure 5. L 65 FS rear panel.

1 **Input / Link 1 - 2.** Audio signal inputs and links through speakON® NL4 connectors, both wired in parallel and thus sharing the same signals. Pins 1+/1- of both NL4 are connected to the woofer.

With the NL4 wiring of these two **Input / Link** connections, it is possible to handle two signals over the 1+/1- and 2+/2- pins. Depending on the application, it can be the same signal traveling over both.

WIRING

L-Line loudspeakers use speakON® NL4 connectors to input and pass audio signals. These wires should be connected as shown below:

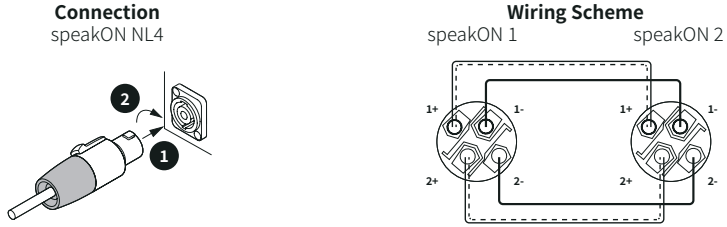

Figure 6. SpeakON® NL4 plug-in and link cable connection.

Best for most applications are cables with a cross-section diameter between 2.08 mm² and 5.26 mm² depending on the used connector, cable length and cable quality. Cables longer than 30 meters should be avoided. A qualified technician must assemble those wires.

When using a weatherproof speaker, be sure to use appropriate plugs and cables to maintain its weather resistance.

L-LINE SYSTEM AMPLIFIER CHANNEL CAPACITY

The L-Line system amplifier are capable of driving multiple loudspeakers on a single amplifier channel. This enables you to configure systems with the highest possible efficiency. The following table lists the maximum number of L-Line and B-Line speaker systems that can be connected to one single amplifier channel.

Maximum possible number of speaker systems connected to a single amplifier channel.

	L 35	L 35 FS	L 65	L 65 FS	B 15	B 18	B 21
LA 10.4D	4	2	3	2	2	2	1

You can use less than the maximum stated number of speaker systems on one amplifier channel. If you are using other SE AUDIOTECHNIK loudspeaker systems, determine the nominal impedance of those components and make sure that it matches the minimum load impedance of the amplifier.

IF THE MINIMUM LOAD IMPEDANCE OF THE AMPLIFIER IS TEMPORARILY OR PERMANENTLY EXCEEDED, THE PROTECTIVE MECHANISMS MAY BE TRIGGERED AND CURRENT LIMITING WILL BE APPLIED OR THE AMPLIFIER SWITCHES TO PROTECTION MODE. IF THE LOAD IMPEDANCE FALLS BELOW THE MINIMUM VALUE OR IF THE CURRENT FLOW IS TOO HIGH, DISTURBING NOISES MAY OCCUR.

APPLICATIONS

Many configurations are possible with the L-Line system. Depending on the application, all L-Line cabinets can be combined to benefit from the most effective and best-sounding solution. In this section, we would like to introduce some example configurations.

It is recommended to perform simulations and estimate the behavior of a setup. Performed simulations should be validated by measurements at the venue and if needed, additional adjustments should be performed to optimize the response of the system in the given environment. GLL files (EASE loudspeaker models) are available for download on our website.

In real applications, the behavior of a system can be heavily depending on external factors such as ground reflections, air attenuation and, in large line arrays, an increased baffle effect between the units. This may cause the frequency response to become tilted due to coupling of low frequency energy.

PLEASE READ CAREFULLY THE "RIGGING AND ACCESSORIES" MANUAL BEFORE USING THE L-LINE LINE ARRAY SYSTEMS. ALWAYS FOLLOW THE RECOMMENDATIONS, APPLICABLE REGULATIONS AND INSTRUCTIONS TO ENSURE SAFE HANDLING AND USE. ALL WORK ON AND WITH THE EQUIPMENT MUST BE CARRIED OUT ONLY BY TRAINED AND AUTHORIZED PROFESSIONALS.

ALWAYS OBSERVE THE MAXIMUM LOAD CAPACITY FOR FLOWN ARRAYS AND GROUND-STACKS SPECIFIED IN THE "RIGGING AND ACCESSORIES" MANUAL. IT IS IMPERATIVE THAT TRAINED AND AUTHORIZED PROFESSIONALS PERFORM INDIVIDUAL CALCULATIONS AND VALIDATIONS TO ENSURE MAXIMUM SAFETY AND SAFE USE AT THE PLACE OF APPLICATION.

HOMOGENEOUS LINE ARRAY

Line arrays composed of **L 65** or **L 35** cabinets operate in the frequency band specified for each loudspeaker. The integrated three-point (**L 35**) or four-point rigging system (**L 65**) makes it easy to join multiple cabinets and suspend the array with the dedicated bumper frame.

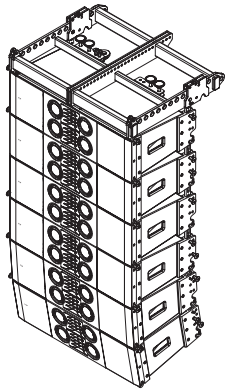

Figure 7. L 65 line array with **L 65 BF** bumper frame.

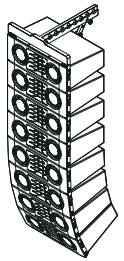

Figure 8. L 35 line array with **L 35 BF** bumper frame.

Larger line arrays can benefit from a more unified cylindrical radiation and increased headroom as well as a higher allover SPL. This can translate in a farther throw distance, higher directivity of lower frequencies and better wave front shaping over the audience area. Simulations can help to find the best-suited length of a line array for a certain application.

It is recommended to use a maximum of 16 speaker cabinets in a line array to ensure both mechanical stability and good acoustic characteristics.

LINE ARRAY WITH LF EXTENSION

Adding flyable subwoofers to an array will provide a wider bandwidth and, depending on the configuration, increased levels and headroom in the low-frequency range.

L 65 + L 65 FS LINE ARRAY

L 65 and **L 65 FS** are equipped with the integrated four-point rigging system. This allows **L 65 FS** subwoofers or **L 65** cabinets to be attached directly to the **L 65 BF** bumper frame as well as directly to each other. To maintain the proportion of frequency spectrum and tonal balance at higher sound pressure levels between subwoofers and mid-high speakers, both speaker systems should be matched in terms of headroom and acoustic characteristics. We recommend starting with a ratio of 2:3 (two **L 65 FS** subwoofers for every three **L 65** cabinets). Depending on the application and aimed SPL level a ratio of 1:3 might also be sufficient.

L 35 + L 35 FS LINE ARRAY

L 35 and **L 35 FS** are equipped with the integrated three-point rigging system. This allows **L 35 FS** subwoofers or **L 35** cabinets to be attached directly to the **L 35 BF** bumper frame as well as directly to each other. To maintain the proportion of frequency spectrum and tonal balance at higher sound pressure levels between subwoofers and mid-high speakers, both speaker systems should be matched in terms of headroom and acoustic characteristics. We recommend starting with a ratio of 1:2 (one **L 35 FS** subwoofer for every two **L 35** cabinets). Depending on the application, available space and aimed SPL level a ratio of 1:4 might also be sufficient.

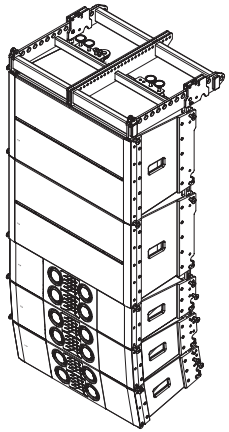

Figure 9. L 65 + **L 65 FS** line array with **L 65 BF** bumper frame.

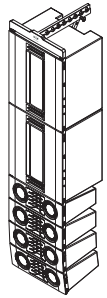

Figure 10. L 35 + **L 35 FS** line array with **L 35 BF** bumper frame.

The frequency response of subwoofers (subs) and mid-high units (tops) are matched 1:1. When building line arrays with LF extension, an offset is necessary to re-align to a nominal flat response. For example, a ratio of 1:3 would mean a -9 dB offset for tops whereas a 2:3 ratio would mean a -2 dB offset for tops. This alignment ensures that the crossover frequency remains where it was originally intended. After alignment, the LF contour can be changed by applying a group EQ to the overall system to match the system to the application. If the system is not aligned, the crossover frequency may shift, which will affect the directivity of the system.

LINE ARRAY WITH DOWNFILL

The L-Line system offers flexible combination possibilities of L-Line line array cabinets while preserving the acoustic linearity to ensure a homogeneous and powerful sound. The **L 35 UFB** under frame adapter can be attached directly to the four-point rigging system of **L 65** elements. With this frame **L 35** cabinets can be easily attached with its integrated three-point rigging system. The rigging system allows for setting the splay angles of each unit within its full adjustable range. In this case, the **L 35** cabinets work as downfill elements. This extends the vertical range of the main **L 65 + L 65 FS** line and allows coverage of listener areas closer to the array.

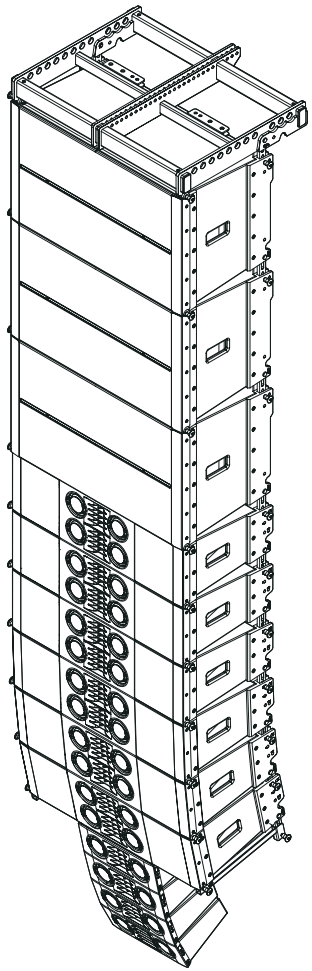

Figure 11. L 65 + **L 65 FS** line array with **L 35** downfill extension and **L65 BF** bumper frame + **L 65 UFB** under frame adapter.

GROUND-STACKED LINE ARRAY

L-Line line arrays can also be build ground-stacked. This application is useful when flown line arrays are not feasible to implement or ground-stacked line arrays are better suited to achieve homogeneous coverage and a specific sound.

L 65 GROUND-STACK

L 65 BF bumper frame is equipped with adjustable feet to provide a stable base for **L 65** and **L 65 FS** ground-stacks. With the integrated four-point rigging system **L 65** cabinets and **L 65 FS** subwoofers can be easily stacked without any additional accessories. With very little effort, you can assemble a full-range ground-stacked line array system consisting of e.g. two **L 65 FS** and three **L 65** cabinets, a subwoofer ground-stack with e.g. three **L 65 FS** or a ground-stacked line array with up to six L 65 cabinets.

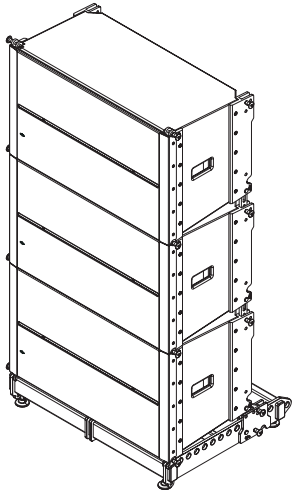

Figure 12a.
L 65 FS subwoofer ground-stack with **L 65 BF** bumper frame.

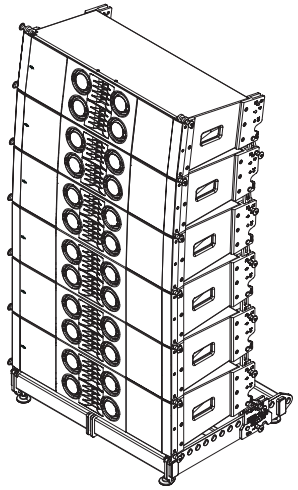

Figure 12b.
Ground-stacked **L 65** cabinets with **L 65 BF** bumper frame.

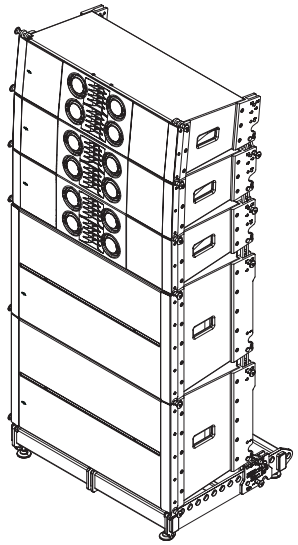

Figure 12c.
Ground-stacked **L 65** + **L 65 FS** with **L 65 BF** bumper frame.

Ensure an appropriate allover splay angle for L 65 units to prevent a too narrow beamwidth in the HF range when working with ground-stacked systems.

L 35 GROUND-STACK

For smaller applications or side-fills, **L 35** can be stacked on **SE AUDIOTECHNIK B-Line B 15/A** or **B 18/A** by using the **B 15 SFi L 35** or **B 18 SFi L 35** stacking frame. The stacking-frames provide the possibility to build safe ground-stacks using the integrated rigging system of the B-Line subwoofers and L-Line line array cabinets.

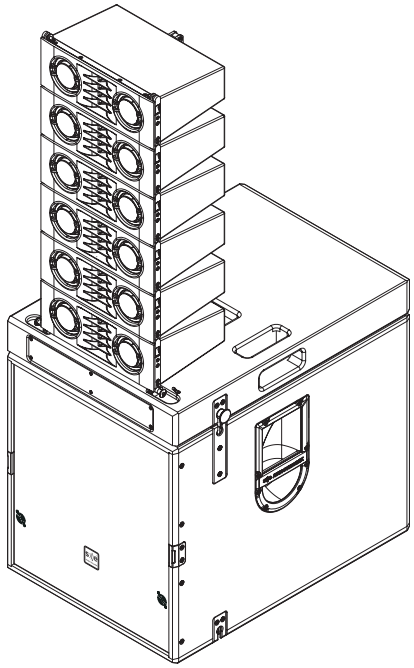

Figure 13. Ground-stacked **B-Line subwoofer** + **L 35** with **B 15/B 18 SFi L35** stacking frame.

STACKED LINE ARRAY ON SUBWOOFER EXTENSION

L 35 can be stacked on **L 35 UB** U-bracket and attached to any subwoofer with M20 thread by using the **SPS20** pole mount accessory. SE AUDIOTECHNIK **B-Line** passive subwoofers are perfect low-frequency extensions for this application. Furthermore, our self-powered **B-Line subwoofers** include DSP presets to work with **L 35** line arrays cabinets.

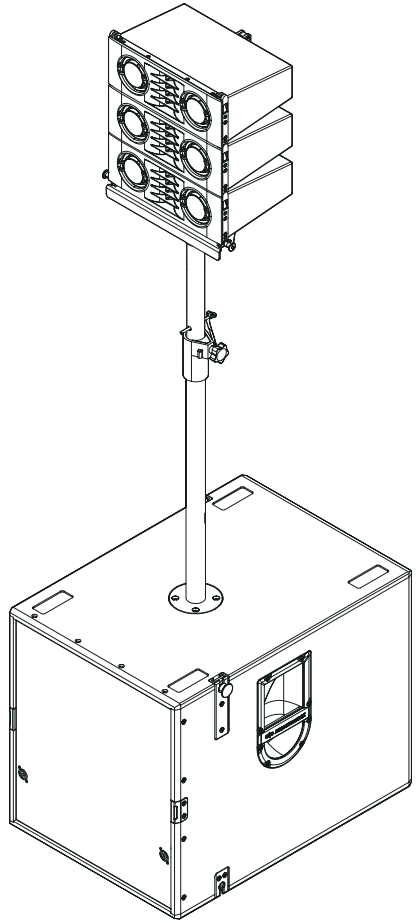

Figure 14. L 35 line array + **B-Line subwoofer** with **L 35 UB** U-bracket and **SPS20** pole mount.

SPECIFICATIONS

L 35 / L 65

TECHNICAL SPECIFICATIONS

ELECTRO-ACOUSTICAL	L 35	L 65
Frequency range (-3 dB) [1]	120 Hz - 18 kHz	110 Hz - 18 kHz
Frequency range (-10 dB) [1]	90 Hz - 19 kHz	90 Hz - 19 kHz
Coverage angles (-6dB) [H x V]	100° x 20°	100° x 20°
Nominal impedance	16 Ω	12 Ω
Sensitivity [1]	91 dB	103 dB
Peak power handling	400 W	1000 W
Continuous power handling [2]	100 W	250 W
Maximum Peak SPL [3]	123 dB	139 dB
System type	2-way passive system	3-way passive system
Crossover frequency	2.2 kHz	MF: 400 Hz, HF: 1.8 kHz
Transducers	LF: 2 x 3.5" drivers (1" voice coil) MHF: 1" compression driver (1.4" voice coil)	LF: 2 x 6.5" woofers (2" voice coil) MF: 4 x 3.5" drivers (1" voice coil) HF: 2 x 1" compression drivers (1.4" voice coil)
Enclosure type	Vented box	Vented box
Connectors	1x Input signal 1x Link output Neutrik speakON® NL4	1x Input signal 1x Link output Neutrik speakON® NL4
Wiring	Input signal: switchable 1+/1- or 2+/2- Link output: 1+/1- and 2+/2-	Pins 1+/1- (both NL4): drivers Pins 2+/2- (both NL4): link signal
MECHANICAL		
Product dimensions [H x W x D] (Including rigging)	131 x 312 x 234 mm	237 x 766 x 383 mm
Net weight	3.6 kg	22.7 kg
Packaging dimensions [H x W x D]	225 x 415 x 311 mm	363 x 810 x 480 mm
Total weight	4.7 kg	25 kg
Cabinet	12 mm plywood with die-cast aluminum baffle	12 mm plywood with die-cast aluminum front
Cabinet finishing [4]	Black or white polyurea coating	Black or white polyurea coating
Grille	Powder coated perforated steel	Powder coated perforated steel
Hardware		Two side handles in plywood embedded in cabinet Two rear heatsink panels
Rigging	Three-point rigging system: two front and one rear 6 mm locking pins.	Four-point rigging system: two front and two rear 8 mm locking pins
Splay angles	0°, 2.5°, 5°, 7.5°, 10°	0°, 1°, 2°, 3°, 4°, 6°, 8°
ACCESSORIES		
Bumper frame	L 35 BF	L 65 BF
U-bracket	L 35 UB	
Under frame adapter		L 65 UFB
Stacking frame for B15 subwoofer	B15 SFi L35	
Stacking frame for B18 subwoofer	B18 SFi L35	
Pole bar	SPS20	

[1] Whole space, 1W / 1m, on axis, LA 10.4D amplifier, '120 Hz' preset
[2] According to EIA-426B Standard (based on RMS Voltage)
[3] Max Peak SPL = Sensitivity + $10\log_{10}$(Continuous Power) + 12 dB Crest Factor
[4] White cabinet finish on request
[5] Hardware and technical data of outdoor versions can be different

All product specifications are subject to change without prior notice.

MECHANICAL DRAWINGS

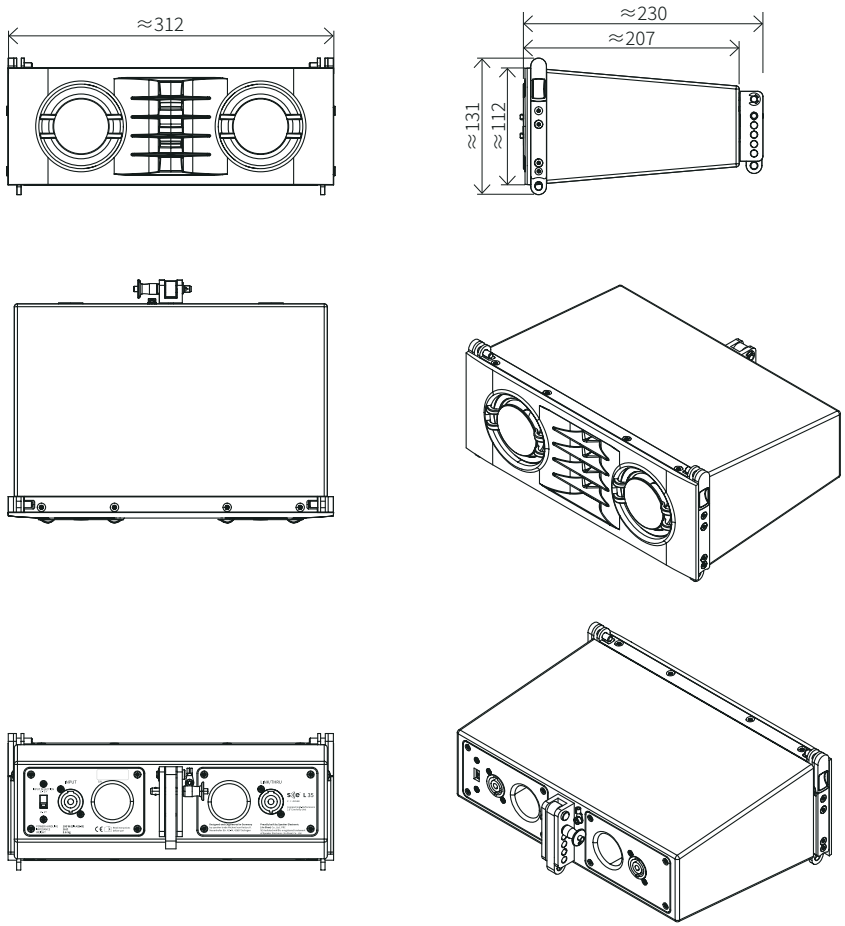

Figure 15. L 35 views and dimensions in millimeters.

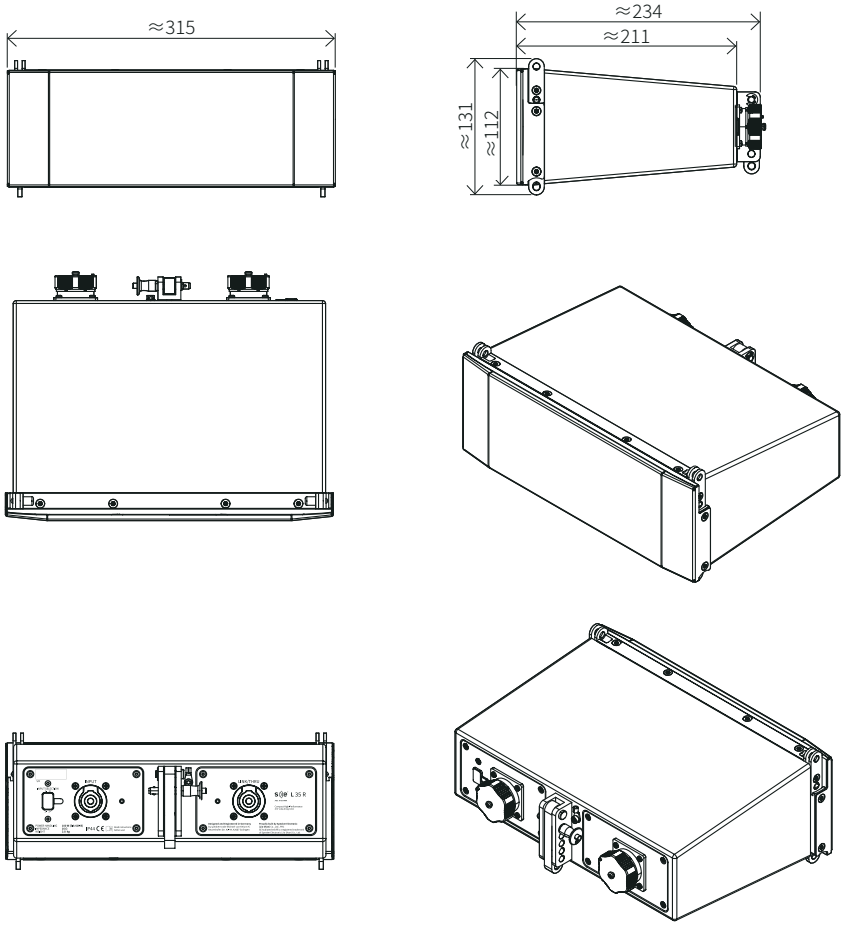

Figure 16. L 35 R views and dimensions in millimeters.

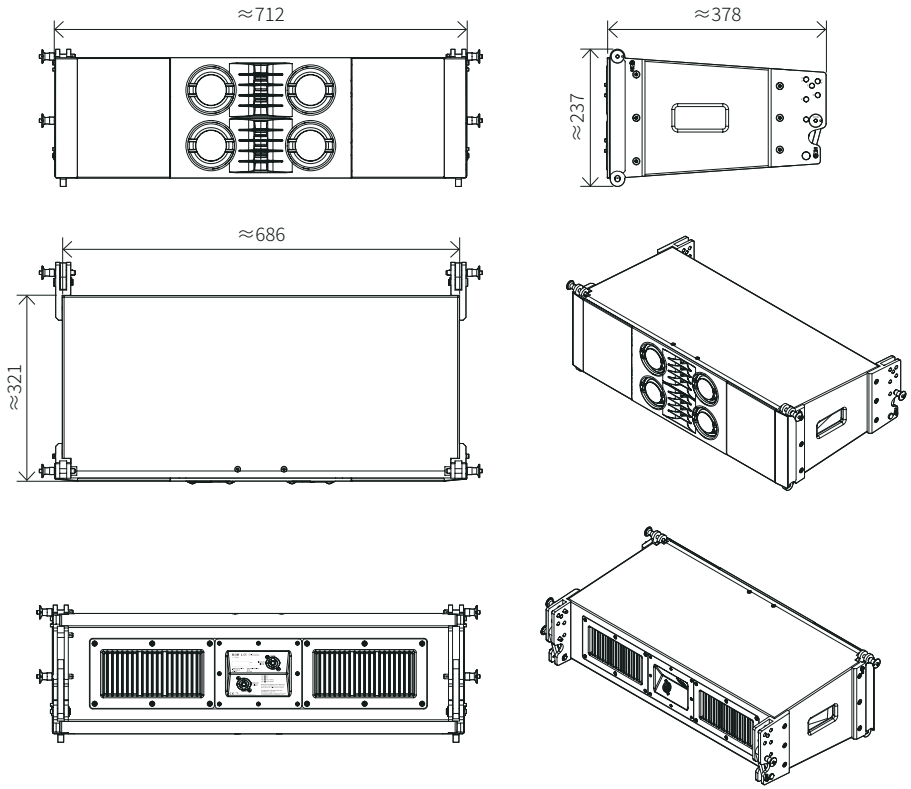

Figure 17. L 65 views and dimensions in millimeters.

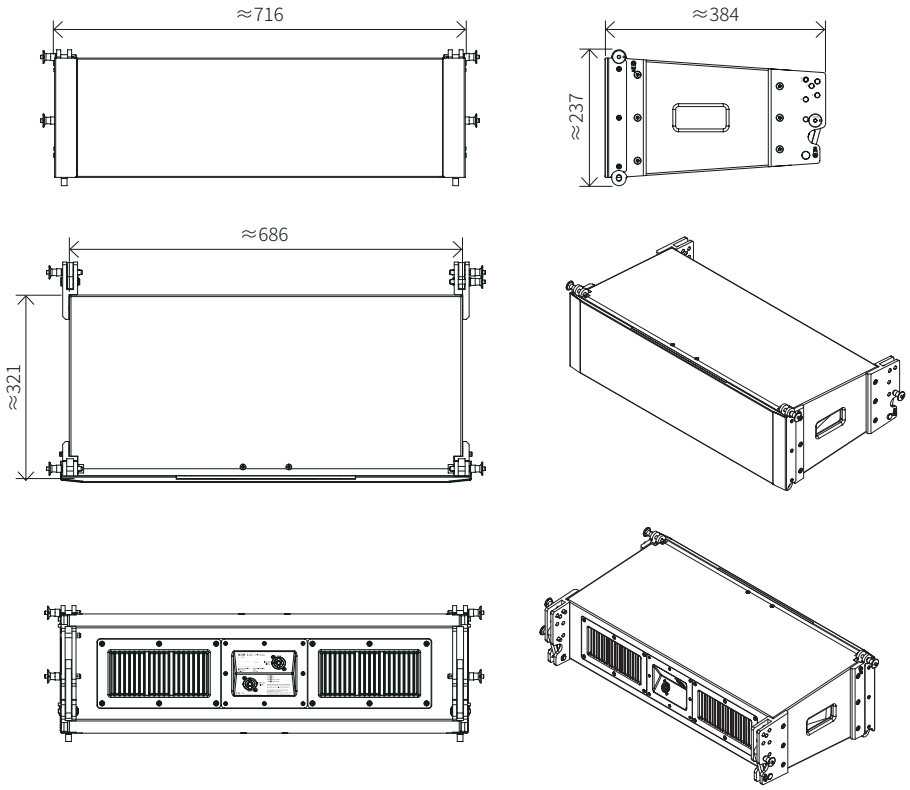

Figure 18. L 65 R views and dimensions in millimeters.

L 35 FS / L 65 FS

TECHNICAL SPECIFICATIONS

ELECTRO-ACOUSTICAL	L 35 FS	L 65 FS
Frequency range (-3 dB) [1]	60 Hz - 120 Hz	60 - 110 Hz
Frequency range (-10 dB) [1]	47 Hz - 160 Hz	45 - 133 Hz
Coverage angles (-6dB) [H x V]	Omnidirectional	Omnidirectional
Nominal impedance	8 Ω	8 Ω
Sensitivity [1]	91 dB	92 dB
Peak power handling	1200 W	2000 W
Continuous power handling [2]	300 W	500 W
Maximum Peak SPL [3]	128 dB	131 dB
System type	1-way passive system	1-way passive system
Transducers	1 x 8" driver (2.6" voice coil)	1 x 15" woofer (4" voice coil)
Enclosure type	Vented box	Vented box
Connectors	1x Input signal 1x Link output Neutrik speakON® NL4	1x Input signal 1x Link output Neutrik speakON® NL4
Wiring	Input signal: switchable 1+/1- or 2+/2- Link output: 1+/1- and 2+/2-	Pins 1+/1- (both NL4): drivers Pins 2+/2- (both NL4): link signal
MECHANICAL		
Product dimensions [H x W x D] (Including rigging)	379 x 312 x 244 mm	447 x 766 x 385 mm
Net weight	9.1 kg	30 kg
Packaging dimensions [H x W x D]	473 x 410 x 340 mm	573 x 810 x 480 mm
Total weight	10.2 kg	33 kg
Cabinet	12 mm plywood with die-cast aluminum front	12 mm plywood with die-cast aluminum front
Cabinet finishing [4]	Black or white polyurea coating	Black or white polyurea coating
Grille	Powder coated perforated steel	Powder coated perforated steel
Hardware		Side handles in plywood embedded in cabinet
Rigging	Three-point rigging system: two front and one rear 6 mm locking pins.	Four-point rigging system: two front and two rear 8 mm locking pins.
Splay angles	0°	0°, 1°, 2°, 3°, 4°, 6°, 8°
ACCESSORIES		
Bumper frame	L 35 BF	L 65 BF
Under frame adapter		L 65 UFB

[1] Whole space, 1W / 1m, on axis, LA 10.4D amplifier, '120 Hz' preset
[2] According to EIA-426B Standard (based on RMS Voltage)
[3] Max Peak SPL = Sensitivity + $10\log_{10}$(Continuous Power) + 12 dB Crest Factor
[4] White cabinet finish on request
[5] Hardware and technical data of outdoor versions can be different

All product specifications are subject to change without prior notice.

MECHANICAL DRAWINGS

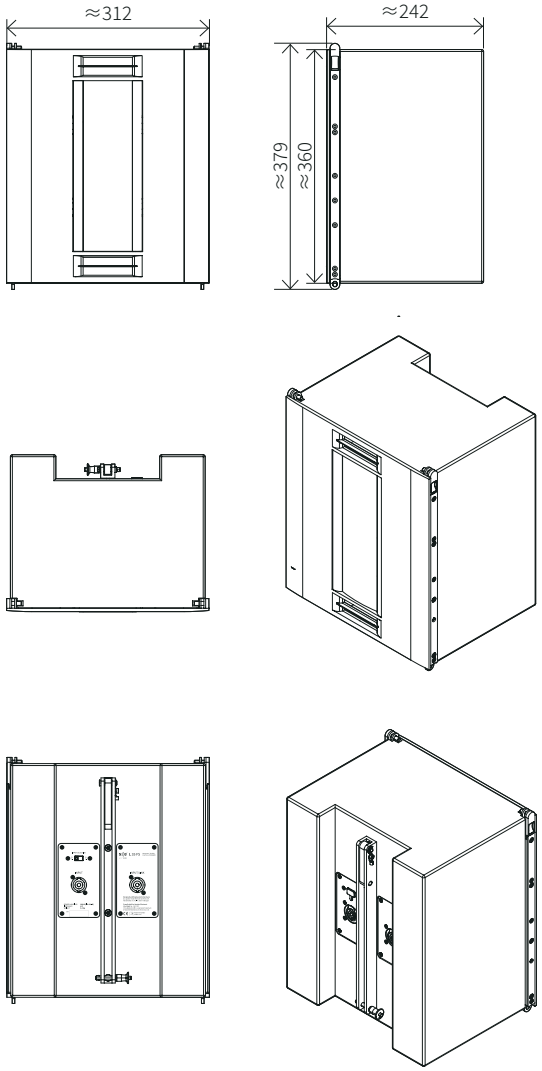

Figure 19. L 35 FS views and dimensions in millimeters.

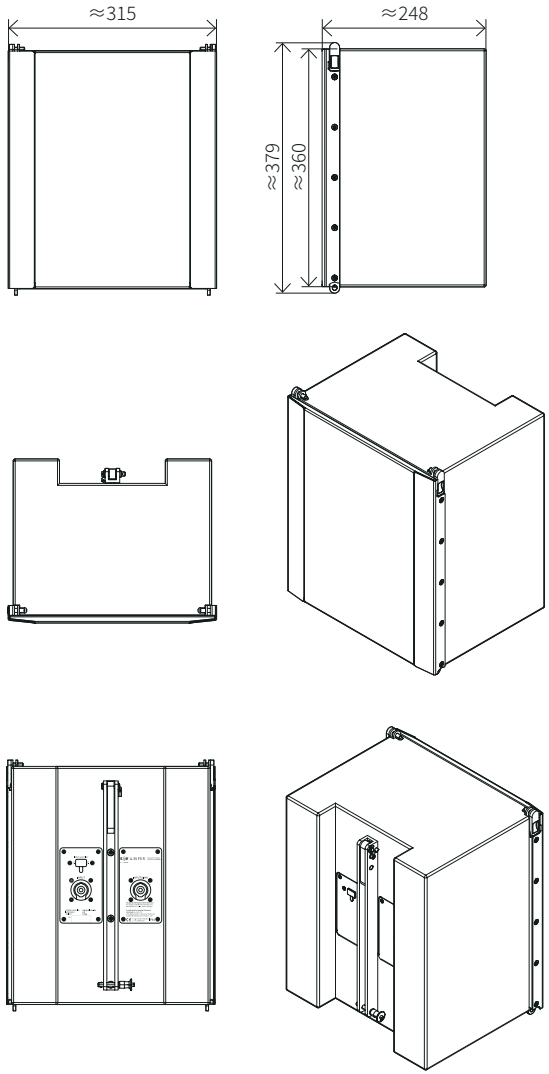

Figure 20. L35 FS R views and dimensions in millimeters.

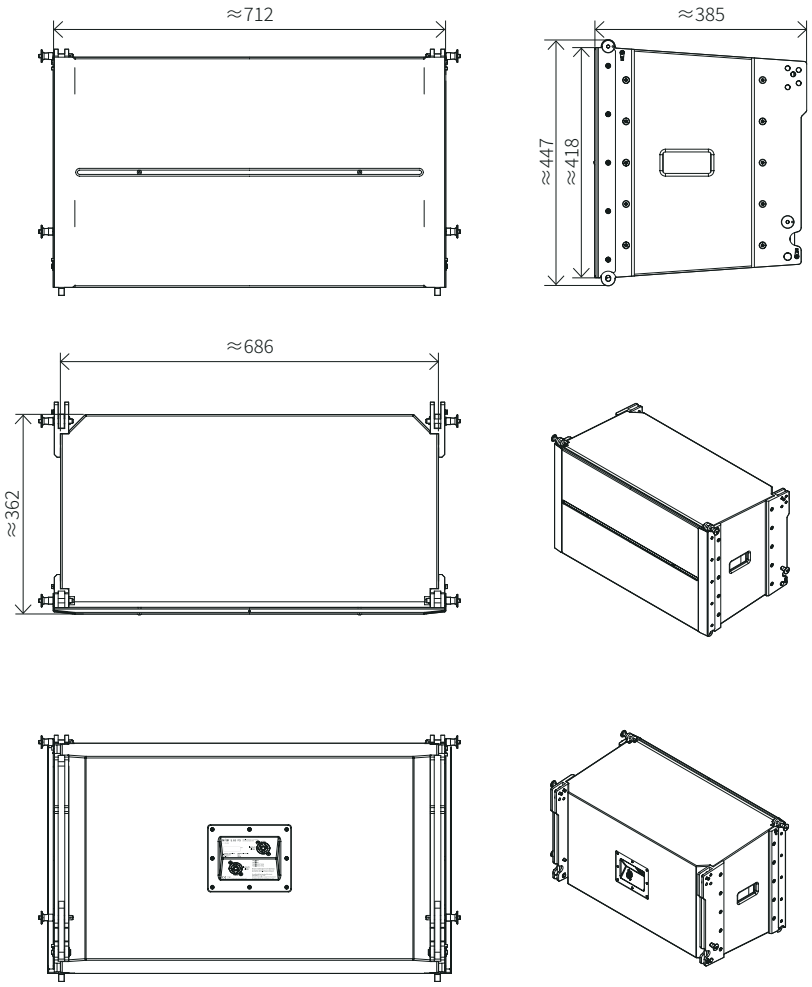

Figure 21. L65 FS / L 65 FS R views and dimensions in millimeters

MANUFACTURER'S **DECLARATIONS**

WARRANTY

SE AUDIOTECHNIK gives a warranty of 4 years on SE AUDIOTECHNIK products. The warranty period begins with the purchasing date. The warranty applies to material or production defects that occur. Defective components or products will be repaired or replaced free of charge by SE AUDIOTECHNIK at its own sole and exclusive discretion during the warranty period.

EXTENDED WARRANTY

Customers who register their products with SE AUDIOTECHNIK on the official website are entitled to an additional 2-year warranty.

NOTE

SE AUDIOTECHNIK does not guarantee the uninterrupted and fault-free operation of the products.

The warranty does not apply:
- For wear parts and natural abrasion.
- For damage, defects or malfunctions caused by improper use or use for other than the intended purpose.
- For damage, defects and malfunctions caused by the use of force or environmental conditions.
- For unauthorized repair efforts.

REQUESTING WARRANTY SERVICES

The request for warranty service can be submitted to SE AUDIOTECHNIK or to the dealer from whom the SE AUDIOTECHNIK products were purchased.

Contact details SE AUDIOTECHNIK

SE AUDIOTECHNIK Head office
Neuenhofer Straße 42-44
42657 Solingen
Germany
Phone +49 212 382 26-0
E-Mail info@se-audiotechnik.de

In order to claim warranty service, you must provide proof of purchase and allow SE AUDIOTECHNIK to examine the warranty claim (e.g. sending in the products, examination at an authorized partner). Without proof of purchase, the provision of a warranty service can be rejected. During the extended warranty period, proof of product registration must be provided in addition.

IMPORTANT NOTE

Your statutory warranty rights are not affected by this warranty. Furthermore, this warranty has no influence on any agreements you may have concluded with a dealer.

LIMITATION OF LIABILITIES

SE AUDIOTECHNIK is not liable for personal injury, material damage or claims resulting from inappropriate, dangerous or incorrect use of the products.

EU DECLARATION OF CONFORMITY

This device complies with the fundamental requirements and other relevant specifications of the directives of the European Union. The detailed declaration and the list of these directives and harmonized standards are provided on the website www.se-audiotechnik.de. Included are all product variants, as long as they comply with the original technical design and have not been subsequently modified mechanically, electrically or in their original condition.

CORRECT DISPOSAL OF PRODUCTS (ELECTRICAL WASTE)

(Applicable in the European Union and other European countries with separate waste collection systems).

SE AUDIOTECHNIK products must not be disposed of with other waste at the end of their service life to avoid possible harm to the environment or human health.
Private users can contact either the dealer from whom they purchased the products or the local authority for information on environmentally friendly disposal. Commercial users can contact their supplier, if they have any questions about disposal.

DECLARATION ON WEEE POLICY

SE AUDIOTECHNIK products are designed and manufactured with high quality materials and components that are intended to be recyclable and/or reusable.
SE AUDIOTECHNIK is WEEE registered in accordance with WEEE policy.

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