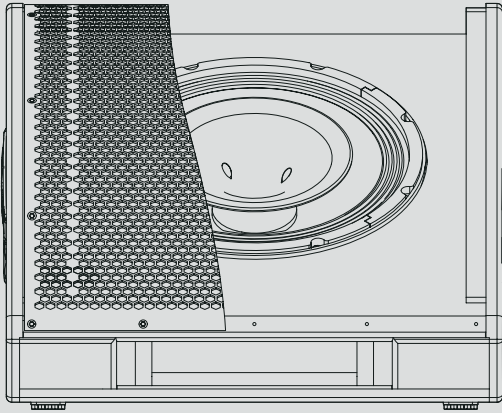




AUDIOTECHNIK

SMX 12

12" COAXIAL MONITOR



MANUAL

THANK YOU FOR CHOOSING S)))e AUDIOTECHNIK®.

We are happy to be the solution for your sound reinforcement and professional sound needs.

The system you purchased is the sum of 20 years of experience as a loudspeaker manufacturer, and more than 40 years as a speaker designer. It is the sum of German precision and Chinese efficiency, which ensures a high-quality product that will last you for the long-term.

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.

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The content of this document is subject to change without prior notice to improve reliability, function, design or otherwise.

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IMPORTANT SAFETY INSTRUCTIONS

GRAPHICAL SYMBOLS IN THE PRODUCT



The lightning bolt triangle is used to alert the user to the risk of electric shock.



Symbol indicating that the equipment is for indoor use only.



The exclamation point triangle is used to alert the user to important operating or maintenance procedures and instructions.



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



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 ground connection.

GRAPHICAL SYMBOLS IN THIS MANUAL



Symbol for important safety information related with the risk of electric shock.



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



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



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

This unit has 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 THIS EQUIPMENT TO RAIN OR MOISTURE, DRIPPING OR SPLASHING LIQUIDS. OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.



TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT ATTEMPT TO OPEN ANY PART OF THE UNIT. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE. THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.

NOISE EXPOSURE PRECAUTIONS



THIS PRODUCT CAN RADIATE HIGH SOUND PRESSURE LEVELS (SPL), THAT CAN LEAD TO IRREVERSIBLE HEARING DAMAGE. SE AUDIOTECHNIK® RECOMMENDS TO RESPECT 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).

IMPORTANT SAFETY INSTRUCTIONS

1. Keep these instructions.
2. Read these instructions.
3. Follow thoroughly all instructions.
4. Heed all warnings.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth. Disconnect the device from the AC outlet before cleaning. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the grounding-type plug. A grounding-type plug has two blades and a third grounding prong. 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.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. Use the mains plug to disconnect the apparatus from the mains.
13. 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.
14. Only use safety pins, attachments, accessories and adapters specified and/or provided by the manufacturer.
15. Refer all servicing to qualified service personnel. This is required when the product 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.
16. Do not insert your fingers, hands or any other foreign objects into any gaps or openings of the device.
17. When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and environment.

PACKAGE CONTENTS

The packaging of the SMX 12 includes:

- 1 SMX 12 monitor
- 1 SMX 12 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 can be requested only by you. We also recommend you to keep all the packing materials and contents for any further transportation.

INTRODUCTION

The SMX 12 is a compact, extremely versatile 2-way passive coaxial monitor in bass reflex design. Thanks to the built-in 12"-LF with powerful 3" voice coil and a 1"-HF with 1.7" voice coil, the SMX 12 monitor is powerful and assertive in any mix and has a harmonious, neutral sound character. This allows any musician to hear themselves better and bring out every nuance of their performance. The clearly audible signal in the 80° x 80° coverage angle is easy on any singer 's voice and musician 's hearing - the more precise they hear themselves, the less effort is required for their performance. At the same time, the SMX 12 monitor remains uncomplicated and feedback-proof.

With a power handling of 1,600 W (peak) and 136 dB max. SPL (peak), the SMX 12 boasts an impressive stage presence, yet keeps distortion at an extremely low level over the entire frequency range from 60 Hz to 20 kHz. The high sensitivity of 99 dB enables smooth, powerful reproduction throughout the entire dynamic range.

SMX 12 monitors can also be used in combination with subwoofers such as the S 15 PRO or B 15A for small to medium-sized events, or for fixed installations. The elegant hidden cable management and connector panel ensures a neat and tidy appearance on stage or in any other application. Equipped with M10 fly points and accessories like the SMX 12 UB U-bracket, SMX 12 can be utilized for applications where the speaker needs to be mounted to a wall, ceiling, truss or speaker stand. The optional padded cover SMX 12TC protects the monitor during transport and storage.



Figure 1. SMX 12.

FEATURES

- 12" high efficiency woofer
- 1" compression driver coaxially mounted
- Concentric waveguide
- Speaker front beveled at 35°
- Recessed I/O panel: no connectors, visible to public
- 2 x M10 fly points
- 3 x handles for easy handling in all situations
- Rubber feet for excellent grip
- Rugged front grill with fabric backing
- Polyurea coating

INPUT PANEL

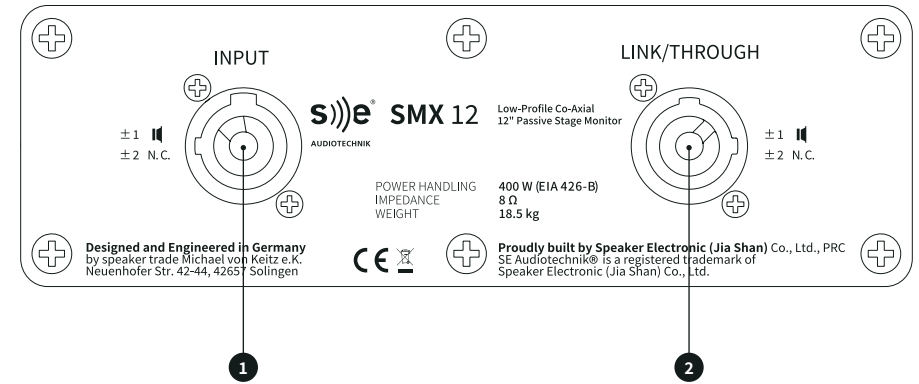


Figure 2. SMX 12 input panel.

- 1 Input.** Neutrik speakON® NL4 input socket.
- 2 Link/Trough.** Neutrik speakON® NL4 input socket parallel to input socket.

WIRING AND INSTALLATION

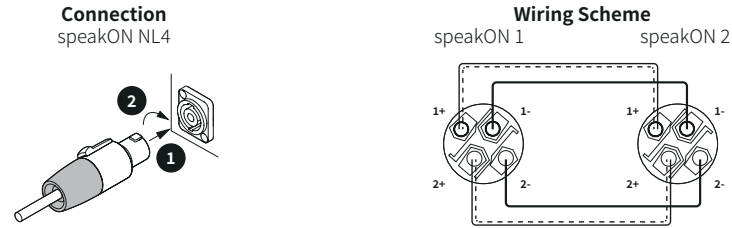


Figure 3. SpeakON® NL4 plug-in and link cable connection.

It is recommended to use cables with at least 18 AWG conductor size. For long cable lengths, the maximum conductor size is 14 AWG. Those wires must be assembled by a qualified technician.

Using the U-bracket **SMX 12UB** and the **PS35** adapter, the SMX 12 can be mounted on a 35 mm standard speaker stand. SMX 12 can also be used for permanent installation.



To ensure the correct and safe behavior of the equipment, use a sufficiently powerful amplifier. As a general rule, its rated power should be at least twice the rated power of the loudspeaker. Keep in mind that daisy chain connections reduce the total impedance, which should respect the amplifier's capabilities. Reducing levels in the undesired frequency ranges, instead of boosting the desired ones, guarantees maximum dynamic range!

U-BRACKET MOUNTING

The **SMX 12UB** U-bracket accessory contains:

- 1x **SMX 12UB** U-bracket
- 2x M10 handle screws
- 2x Steel washers
- 2x Silicone washers

Mounting positions of the U-bracket must be adjusted for different use.

- Position **A**: for ceiling and truss installation.
- Position **B**: to use on a 35 mm standard speaker stand.
- Position **C**: for a closer wall mounting.

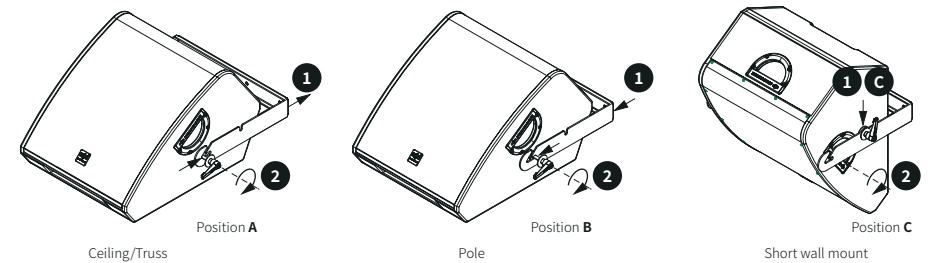


Figure 4. Different positioning options offered by the **SMX 12UB** U-bracket.

To attach the **SMX 12UB** U-bracket to the SMX 12:

1. Unscrew the black countersink screws from M10 fly points on the left and right side of SMX 12.
2. Onto the thread of each M10 handle screw, put first a steel washer and then, a sili-cone washer.
3. Fix the handle screws into the fly points. Turn 3 or 4 times to keep them in place.
4. Push the silicone washer close to the cabinet's side panel, and the metal washer close to the handle screw, so the U-bracket arm can easily get between both washers.
5. Place the U-bracket over the left and right handle screws. Make sure the U-bracket arms have the silicone washer at the side of the box, and the steel washer on the side of the handle screw.
6. Place the U-bracket in the desired position A or B and tighten softly the handle screws.

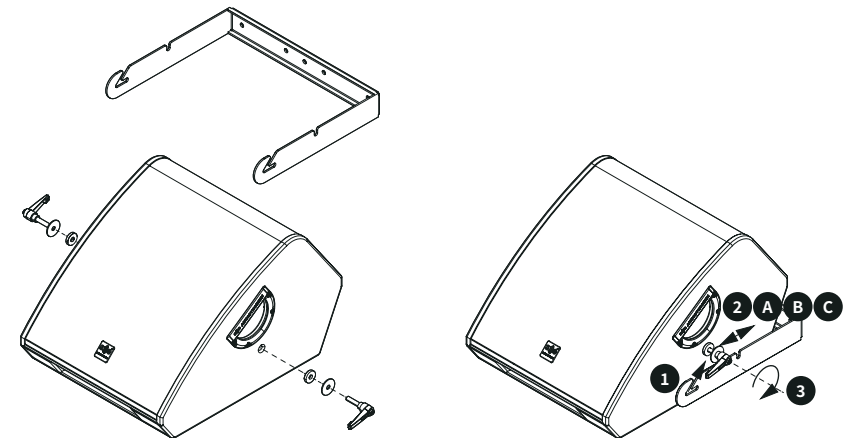


Figure 5. Attaching the **SMX 12UB** U-bracket to the SMX 12 monitor. Mind the three available mounting positions depending on the application.

To mount the monitor on a 35 mm standard speaker stand, use the **PS 35** adapter as follows:

7. Fix tightly the **PS 35** adapter to the **SMX 12UB** center-hole, using the M10 wing nut.
8. Loosen the star screw of the **PS 35** pole adapter, so the pole entrance is not obstructed.

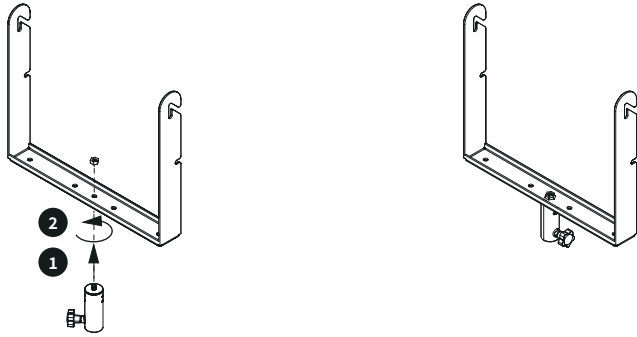


Figure 6. **PS 35** pole adapter attached to the **SMX 12UB** U-bracket.

9. Push the U-bracket until the handle screw is in position B of the U-bracket's arm, as shown in figure 5. Tighten softly the handle screws.
10. Fix tightly the 35 mm standard speaker stand into the M20 thread of the subwoofer.
11. Lift the **SMX 12** with the left and right handles of the box and insert the U-bracket into the speaker stand.
12. Adjust the vertical angle of the box and fix the handle screws tightly.
13. Plug in the signal cables.
14. Secure signal cables properly to prevent accidents due to cable entanglement.

WALL MOUNTING

1. Fix the U-bracket to the wall.



Make sure to use the appropriate mounting materials for wall mounting!

In addition, verify that the arms of the U-bracket are not bent and the opening between them is at least 47 cm. Otherwise, bend the arms slightly outwards, so you can get the box between them without trouble.

2. Unscrew the black countersink screws from M10 fly points on the left and right side of **SMX 12**.
3. Onto the thread of each M10 handle screw, put first a steel washer and secondly, a silicone washer.
4. Fix the handle screws into the fly points. Turn 3 or 4 times to keep them in place.
5. Push the silicone washer close to the cabinet's side panel, and the metal washer close to the handle screw, so the U-bracket arm can easily get between both washers.
6. Use the two left and right cabinet handles to lift and hang the box onto the U-Bracket arms.
7. Make sure the handle screws are fixed in position **A** of U-bracket slot.
8. Adjust the vertical angle of the box and fix the handle screws tightly.
9. Plug in the signal cable.
10. If you want to be very close to the wall and have **SMX 12** pointing downwards, you can use the notch position **C** on the U-bracket. See figure 7.

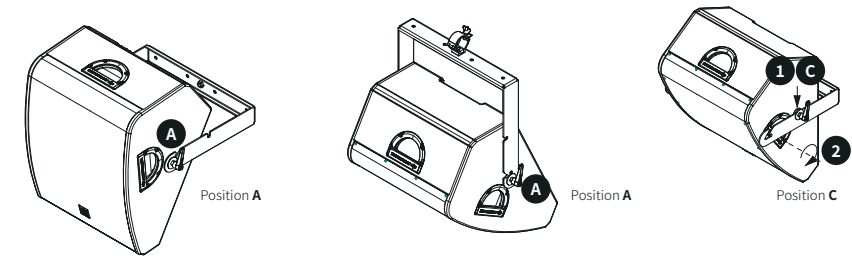


Figure 7. Different aiming angles for wall- and truss-mount installation.

SPECIFICATIONS

TECHNICAL SPECIFICATIONS

PARAMETER	VALUE
ELECTRO-ACOUSTICAL	
Frequency response (-3 dB) ¹	125 Hz - 16 kHz
Frequency range (-10 dB) ¹	60 Hz - 20 kHz
Coverage angles (-6 dB) [H x V]	80° x 80°
Nominal impedance	LF: 8 Ω, HF: 16 Ω
Sensitivity ²	99 dB
Peak power	1600 W
Continuous power ²	400 W
Maximum Peak SPL ³	136 dB
System type	2-way coaxial system
Acoustic crossover frequency	1.3 kHz
Crossover type	LPF: Butterworth 2 nd Order HPF: Butterworth 3 rd Order
Transducers	Coaxial driver with: LF: 1 x 12" driver (3" voice coil) HF: 1" compression driver (1.7" voice coil)
Enclosure type	Vented box
Connectors	Input signal: Neutrik speakON® NL4 Link output: Neutrik speakON® NL4
Wiring	Pins 1+ / 1- : driver
MECHANICAL	
Product dimensions [H x W x D] (Including rigging)	368 x 450 x 575 mm
Weight	19 kg
Packaging dimensions [H x W x D]	447 x 535 x 660 mm
Total weight	23 kg
Cabinet	15 mm plywood
Cabinet finishing	Black polyurea coating
Grille	Powder coated perforated steel
Hardware	1 top and 2 side handles embedded in cabinet Rubber feet 2 x M10 for U-bracket mounting
ACCESSORIES	
U-bracket	SMX 12UB
Transport cover	SMX 12TC
Pole bar	SPS20
M10 screw to 35mm pole socket adaptor	PS35

¹ Whole space, 1 W / 1 m, on-axis

² According to EIA-426B Standard (based on RMS Voltage)

³ Max Peak SPL = Sensitivity + 10log₁₀(Continuous Power) + 12 dB Crest Factor

MECHANICAL DRAWINGS

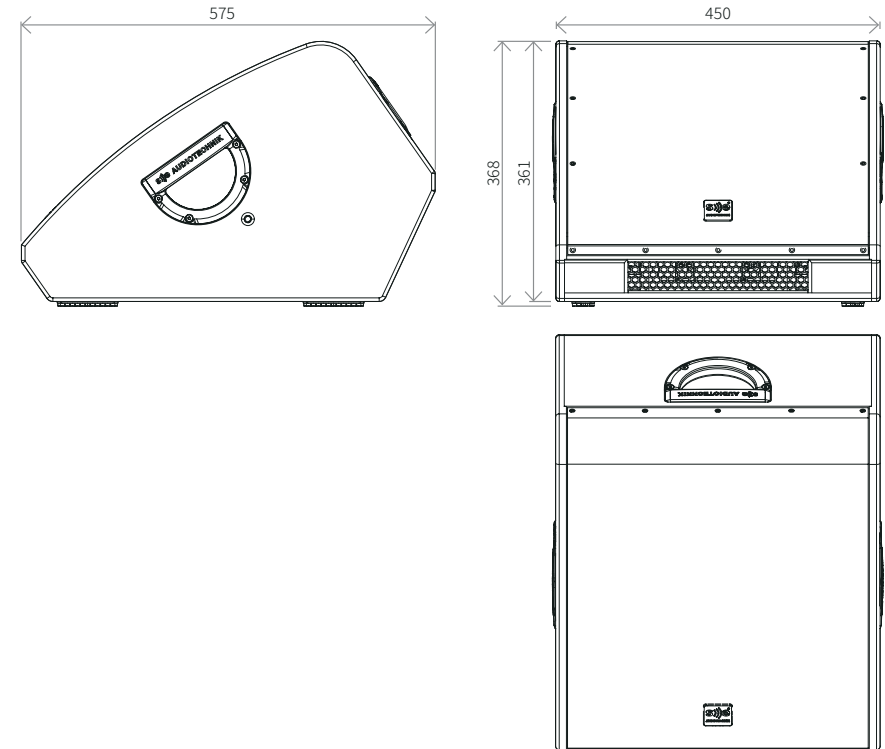


Figure 8. SMX 12 views and dimensions. Annotations given in millimeters.

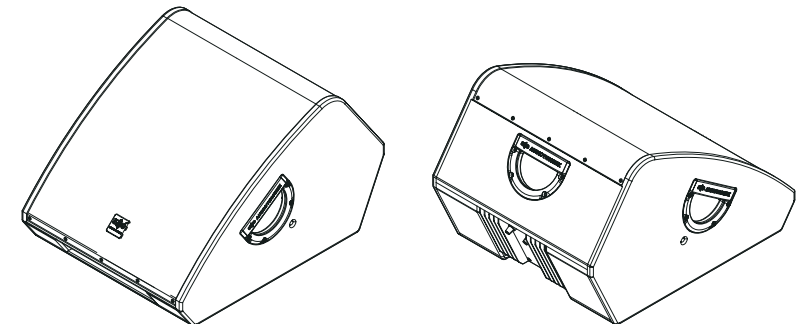


Figure 9. SMX 12 isometric views.

MANUFACTURER'S DECLARATIONS

LIMITED WARRANTY

This limited warranty applies to SE AUDIOTECHNIK® branded products.

The statutory warranty rights towards the seller are not affected by this guarantee. In fact, it justifies additional independent warranty claims towards SE Audiotechnik.

SE AUDIOTECHNIK® warrants that the SE AUDIOTECHNIK® product purchased from SE AUDIOTECHNIK® or from an SE AUDIOTECHNIK® authorized reseller, is free from defects in materials or workmanship under normal use, for a period of three years from the date of purchase.

The limited warranty period starts on the date of purchase. To receive warranty services, proof of the purchase must be provided. The dated sales or delivery receipt, stating the date of purchase, is the proof of purchase.

Should products of the brands named above be in need of repair within the limited warranty period, you are entitled to warranty services according to the terms and conditions stated in this document.

This limited warranty extends only to the original purchaser of this SE AUDIOTECHNIK® branded product and is not transferable to anyone who obtains ownership of the SE AUDIOTECHNIK® product from the original purchaser. During the limited warranty period, SE AUDIOTECHNIK® will repair or replace the defective component parts or the product. All component parts or hardware products removed under this limited warranty become the property of SE AUDIOTECHNIK®.

In the unlikely event that the SE AUDIOTECHNIK® product has a recurring failure, SE AUDIOTECHNIK®, at its discretion, may elect to provide a replacement unit of SE AUDIOTECHNIK® choice that is at least equivalent to your SE AUDIOTECHNIK® branded product in hardware performance.

SE AUDIOTECHNIK® does not warrant that the operation of this product will be uninterrupted or error-free. SE AUDIOTECHNIK® is not responsible for damage that occurs as a result of your failure to follow the instructions included with the SE AUDIOTECHNIK® branded product.

This limited warranty does not apply:

- to wear parts
- to any product from which the serial number has been removed or that has been damaged or rendered defective as the result of an accident
- in case of misuse, abuse, or other external causes
- by operation outside the usage parameters stated in the user's documentation
- by use of spare parts not manufactured or sold by SE AUDIOTECHNIK®
- by modification or service by anyone other than SE AUDIOTECHNIK®

These terms and conditions constitute the complete and exclusive warranty agreement between the purchaser and SE AUDIOTECHNIK® regarding the SE Audiotechnik branded product purchased.

LIMITATION OF LIABILITY

If the SE AUDIOTECHNIK® branded hardware product fails to work as warranted above, the sole and exclusive remedy shall be repair or replacement. SE AUDIOTECHNIK®'s maximum liability under this limited warranty is explicitly limited to the lesser of the price it has been paid for the product, or the cost of repair or replacement of any hardware components that malfunction in conditions of normal use.

SE AUDIOTECHNIK® is not liable for any damages caused by the product or the failure of the product, including any lost profits or savings or special, incidental or consequential damages. SE AUDIOTECHNIK® is not liable for any claim made by a third party or made by the purchaser for a third party.

This limitation of liability applies whether damages are sought, or claims are made, under this limited warranty or as a tort claim (including negligence and strict product liability), a contract claim, or any other claim. This limitation of liability cannot be waived or amended by any person. This limitation of liability will be effective even if the purchaser

has advised SE AUDIOTECHNIK®, or an authorized representative of SE AUDIOTECHNIK®, of the possibility of any such damages.

This limitation of liability however, will not apply to claims for personal injury.

This limited warranty gives the purchaser specific legal rights. There may also be other rights that may vary from state to state or from country to country. The purchaser is advised to consult applicable state or country laws for a full determination of his rights.

REQUESTING WARRANTY SERVICE

To request warranty service for the product, the purchaser must contact SE AUDIOTECHNIK® or the SE AUDIOTECHNIK® authorized reseller from which the product was purchased.

EC DECLARATION OF CONFORMITY

This device meets the essential requirements and further relevant specifications of the Directives of the European Union. The detailed declaration, and the list of these Directives and the Harmonized Standards, is available in our website www.se-audiotechnik.de.

CORRECT DISPOSAL OF THIS PRODUCT (ELECTRICAL WASTE)

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

This marking, shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of waste and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details on where and how they can recycle this item in an environmentally friendly manner.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other wastes for disposal.

WEEE-DECLARATION

This SE AUDIOTECHNIK® product was developed and manufactured with high quality materials and components which can be recycled and/or reused. This symbol indicates that electrical and electronic equipment must be disposed separately from normal waste at the end of its operational lifetime.

Please dispose this product by bringing it to your local collection point or recycling centre for such equipment. This will help to protect the environment in which we all live.

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Designed in Germany

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