



▶▶ NEUMANN.BERLIN

▶ REK 4

REMOTE ELECTRONICS KIT 4

OPERATING MANUAL





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Important safety instructions

In this operating manual, the term “product” always refers to the entity of loudspeaker electronics and REK 4.

1. Read these instructions and the loudspeaker’s operating manual.
2. Keep these instructions. Always include these instructions and the loudspeaker’s operating manual when passing the product on to third parties.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use the product near water.
6. Only clean the product when it is not connected to the mains power supply. Clean only with a dry cloth.
7. Always ensure a free air flow through the ventilation openings on the rear of the product. 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 polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. Always connect to a mains socket outlet with a protective earthing connector.
10. Protect the power supply cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where it exits from the product.
11. Only use attachments/accessories specified by the manufacturer.
12. 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/product combination to avoid injury from tip-over.
13. Unplug the loudspeaker electronics during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing 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 product, when the product has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. To completely disconnect the product from the AC mains, disconnect the power supply cord plug from the AC receptacle.
16. **WARNING:** To reduce the risk of fire or electric shock, do not expose the product to rain or moisture.
17. Do not expose the product to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the product.
18. The mains plug of the power supply cord shall remain readily accessible.



The label shown on the right is attached to the terminal side of the loudspeaker electronics.



The symbols on this label have the following meaning:

Presence of uninsulated dangerous voltage within the loudspeaker electronics that may be of sufficient magnitude to constitute a risk of electric shock.



There is a risk of electric shock if you touch current-carrying parts. Refer servicing to your Neumann service partner.



Read and follow the safety and operating instructions contained in the loudspeaker’s operating manual and in this operating manual.





Installation

- Ensure that the room in which you use this product is wired in accordance with the local electrical code and checked by a qualified inspector.
- Only use the product indoors.
- Do not install the product in hot, humid, or excessively dusty locations, in direct sunlight or in locations where it is exposed to externally generated vibrations.
- Do not place burning objects (e.g. candles) on top of or near the product.
- If condensation has formed on the product, e.g. because it was moved from a cold environment to a warm one, allow the product to acclimatize to room temperature before using it.
- Do not overload wall outlets and extension cables as this may result in fire and electric shock.

Intended use

Intended use of the product includes:

- having read the loudspeaker's operating manual, this operating manual and especially the chapters "Important safety instructions" in both operating manuals,
- using the product within the operating conditions and limitations described in the loudspeaker's operating manual and in this operating manual.

"Improper use" means using the product

- other than as described in the above mentioned operating manuals, or
- under operating conditions which differ from those described in the operating manuals.

This will invalidate the guarantee.



Note that imperial dimensions are approximate.



The REK 4 remote electronics kit

Thank you for purchasing a Neumann REK 4 remote electronics kit. This Neumann accessory is designed to complement Neumann's extensive range of monitors.

The Neumann mounting hardware range gives increased signal interconnectivity and mounting flexibility, for the cabinets and the electronics. The philosophy of the mounting hardware range is to provide the parts required to mount the loudspeakers onto commonly available third-party mounting products.


The REK 4 allows active loudspeaker electronics panels to be located up to 30 m (90') away from the loudspeaker cabinet. This has the following advantages when loudspeakers are flush mounted:

- No heat dissipation problems
- Easy adjustment of the controls
- Easier servicing of the electronics
- Shorter cable runs
- Compatible with standard 19" racks

A cable terminated with a 8-pole Neutrik Speakon connector carries the driver signal. A cable terminated with a Neutrik etherCON connector carries the display signal. Significant additional space is not required behind the chassis if you choose to mount the connector on the bottom panel (see page 6).

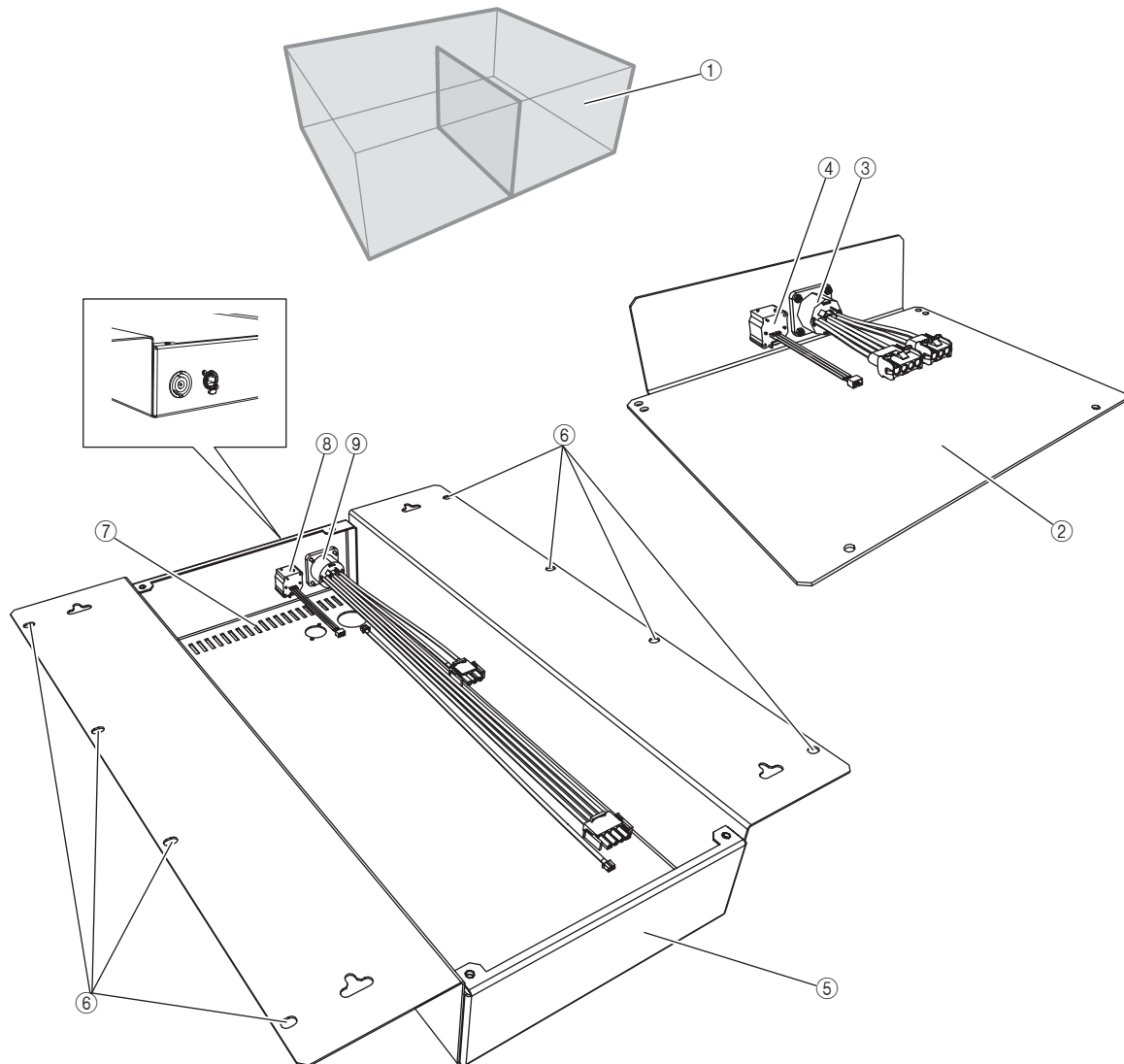
Package contents

- 1 REK 4 loudspeaker electronics' chassis with pre-mounted cables
- 1 REK 4 cover plate for loudspeaker with pre-mounted cables
- 1 Piece of damping material
- 4 Torx 25 cylinder head screws M5x25
- 4 Washers for M5 screws
- 1 Operating manual

 Neumann CP cable packs in lengths of 2, 5, 10, 15, 20, 25 and 30 m are available as optional accessories (see page 13). Neumann CP cables are constructed of flame-retardant materials and have very robust high quality metal connectors. The pin assignment of the CP cables can be found on page 12. Third party cables can also be used.



Product overview



- ① Damping Material
- ② REK 4 cover plate for loudspeaker
- ③ Cable with Neutrik Speakon chassis connector and 3-pin plug for the bass driver cable and 4-pin plug for the treble and midrange driver cable
- ④ Cable with Neutrik etherCON chassis connector and 2-pin plug for the display cable
- ⑤ REK 4 loudspeaker electronics' chassis
- ⑥ Holes for mounting the REK 4 (also compatible with 19" racking)
- ⑦ Ventilation openings
- ⑧ Cable with Neutrik etherCON chassis connector and 2-pin plug for the display cable
- ⑨ Cable with Neutrik Speakon chassis connector and 3-pin plug for the bass driver cable and 4-pin plug for the treble and midrange driver cable

Installing the REK 4



CAUTION

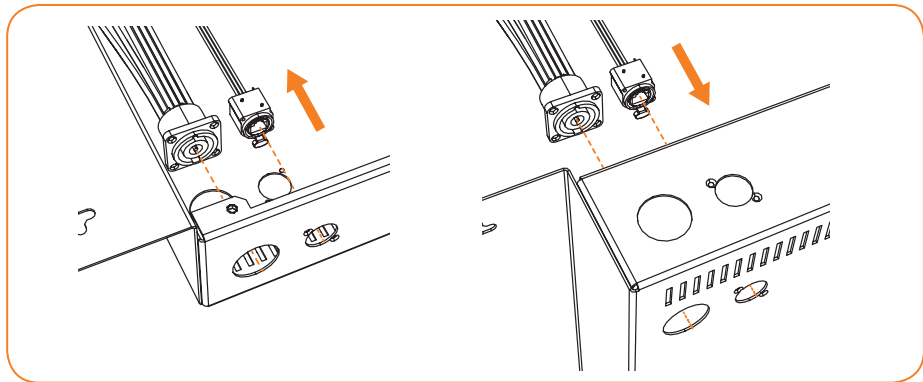
Danger of injury and material damage if the product is not installed by a specialist!

If the installation is not carried out by a specialist, the danger of injury and material damage is increased.

- ▶ The installation has to be carried out by a specialist according to local, national and international regulations and standards.

Due to his/her technical training, know-how and experience as well as knowledge of relevant provisions, regulations and standards, the specialist must be able to assess assigned tasks, recognize potential hazards and ensure appropriate safety measures. The following safety and mounting instructions are addressed to this specialist.

Mounting the cables The connectors of cables ⑧ and ⑨ are pre-mounted on the top panel of the chassis. If you want to mount the connectors on the rear panel of the chassis, detach them and mount them there.



- ▶ Remove the two cover caps from the two holes in the rear panel of the chassis.
- ▶ Loosen the screws of the Speakon and etherCON chassis connectors in the top panel of the chassis.
- ▶ Fit the two chassis connectors into the holes in the rear panel of the chassis.
- ▶ Fasten the Speakon chassis connector with a torque of 1 Nm.
- ▶ Fasten the etherCON chassis connector with a torque of 0.5 Nm.
- ▶ Fit the two cover caps into the two holes in the top panel of the chassis.
- ▶ Observe the space required behind or above the REK 4 for the CP cables:

| Cables ⑧ and ⑨ mounted... | Space required for the CP cables |
|---------------------------|--|
| ... on the rear panel | at least 12 cm (5") behind the chassis |
| ... on the top panel | at least 12 cm (5") below the chassis |



Keep in mind to always maintain an air gap of at least 5 cm (2") around the chassis' backplate to ensure sufficient ventilation of the loudspeaker electronics (see page 10).

Preparing the loudspeaker ▶ Switch off the loudspeaker, then disconnect the mains cable and all signal cables (see the operating manual of the loudspeaker).
 ▶ Wait at least 1 minute until all capacitors of the loudspeaker electronics have fully discharged.

Removing the woofer ring ▶ Carefully place your fingers on either side of the inside of the woofer ring, press outwards, and then pull towards you.
 ▶ Make sure not to damage the bass driver.

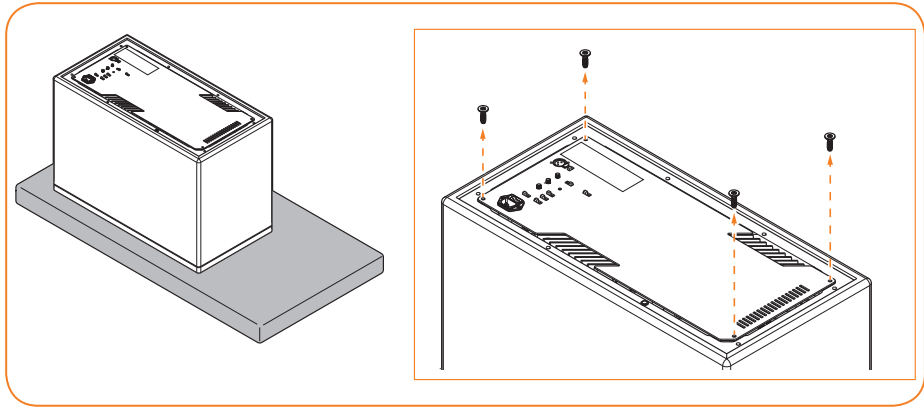


**Removing the
loudspeaker
electronics**

- ▶ Place the loudspeaker face down on a sturdy, flat and soft surface.
- ▶ Unscrew and remove the four Torx 25 cylinder head screws and washers from the backplate (see figure).



Keep the screws and washers. You will need them later to attach the REK 4 cover plate to the loudspeaker cabinet.

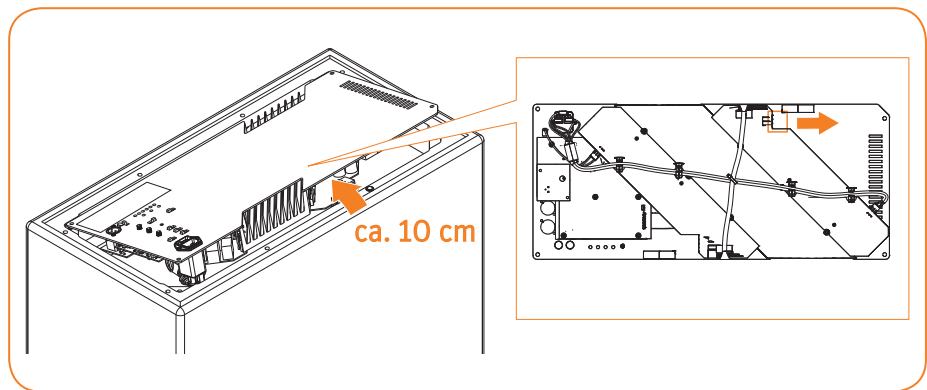


CAUTION
Danger of injury due to sharp edges!

The ends of the cooling fins of the backplate may have sharp edges.

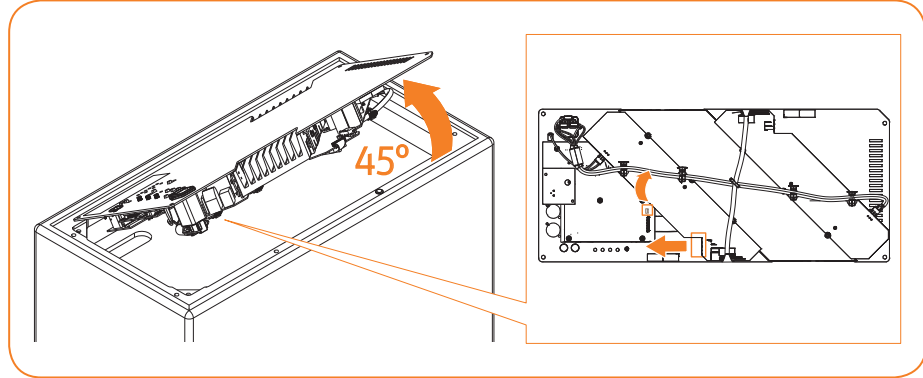
- ▶ Do not touch the cooling fins.

- ▶ Lift the backplate upwards by approx. 10 cm, as shown below.
For that purpose you can use a wood or plastic wedge. Do not use a metal wedge.
- ▶ Carefully pull the white 3-pin connector of the bass driver cable off the loudspeaker electronics by gently squeezing the locks on both sides of the connector.



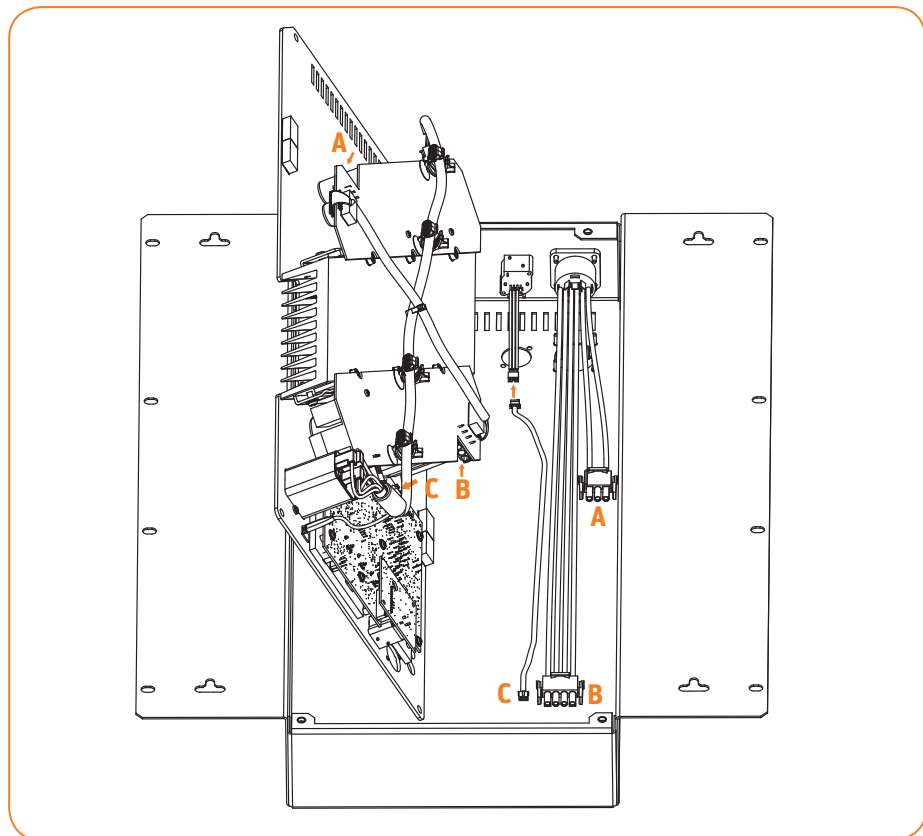


- ▶ Tilt the backplate to an angle of 45° (approx. 20 cm).
- ▶ Carefully pull the white 4-pin connector of the treble and midrange driver cable off the loudspeaker electronics by gently squeezing the locks on both sides of the connector.
- ▶ Carefully pull the small white connector of the display cable off the loudspeaker electronics.



Installing the loudspeaker electronics in the REK 4 chassis

- ▶ Carefully lift the backplate with the loudspeaker electronics out of the loudspeaker housing.
- ▶ Place the REK 4 chassis horizontally on a sturdy, flat surface.
- ▶ Insert the loudspeaker electronics vertically into the REK 4 chassis, as shown below



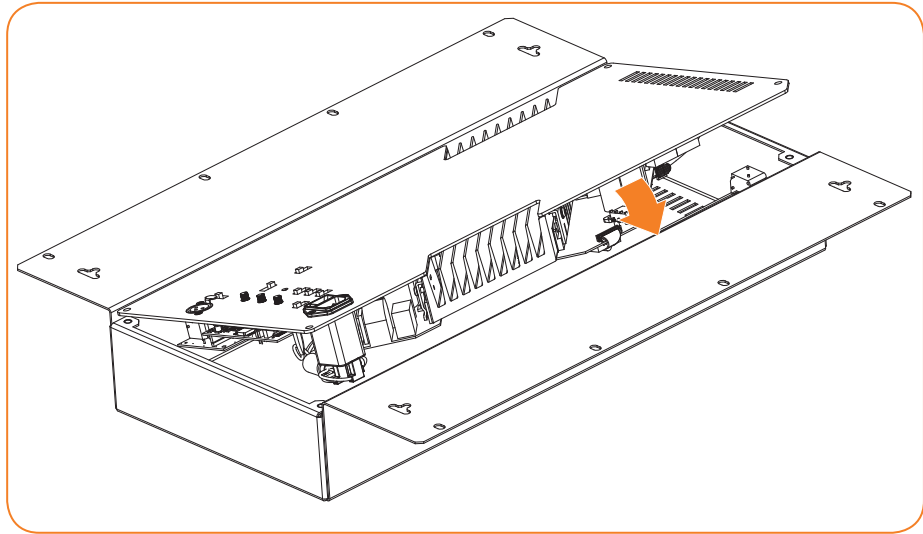
- ▶ Connect the 3-pin plug **A** to the 3-pin bass driver socket **A** of the loudspeaker electronics, as shown above.
- ▶ Connect the 4-pin plug **B** to the 4-pin treble and midrange driver socket **B** of the loudspeaker electronics, as shown above.
- ▶ Connect the 2-pin plug **C** to the 2-pin display cable socket **C** of the loudspeaker electronics, as shown above.



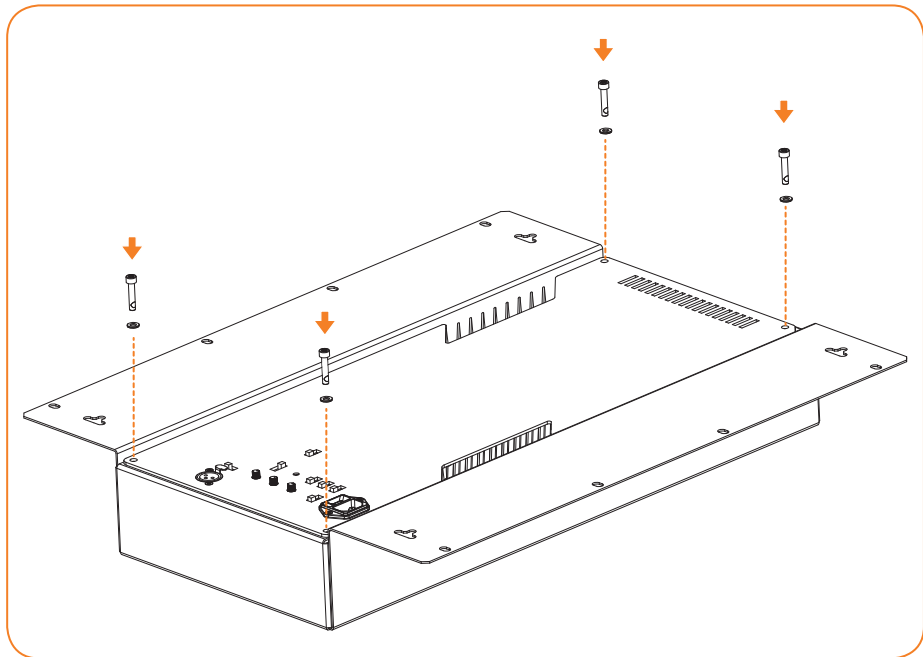
The connectors are protected against erroneous connection. They connect easily. Do not try to force the connectors into place.



- ▶ Carefully tilt the loudspeaker electronics into the REK 4 chassis, as shown below.



- ▶ Insert the 4 supplied Torx 25 cylinder head screws and washers and fix the loudspeaker electronics to the REK 4 chassis with a torque of 3 Nm.



CAUTION

Danger of injury and material damage due to dropping of the product!

If the chassis is dropped, damage to objects or injury to persons as well as damage to the product itself may occur.

- ▶ Do not place this chassis on unstable platforms, carts, stands, tables or mounting equipment.
- ▶ Always screw the chassis tight. Use all 8 mounting points ⑥.

CAUTION

Damage to the product due to overheating!

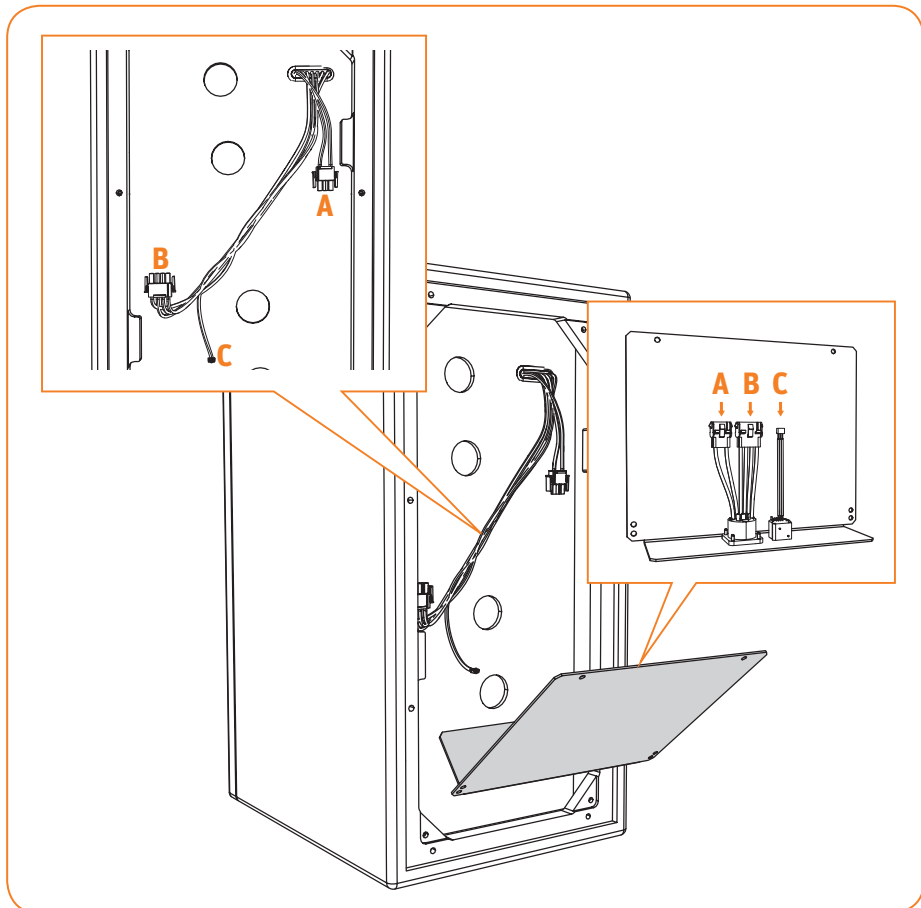
If air cannot circulate properly through the ventilation openings on the rear of the chassis, the power amplifiers of the loudspeaker may overheat leading to premature activation of the thermal protection system which limits the maximum output level of the loudspeaker. In rare cases, damage to the product may also occur.

- ▶ Never cover the ventilation openings.
- ▶ When installing the product into tight spaces such as wall recesses, maintain an air gap of at least 5 cm (2") around the chassis's backplate to ensure a free air flow through the ventilation openings.
- ▶ Always install the product in an upright position: horizontally or vertically. Never install it lying down flat.

- ▶ Mount the chassis ...
 - into a 19" rack
 - or
 - in a different location, e.g. on wooden batons attached to a wall or in a wall recess.

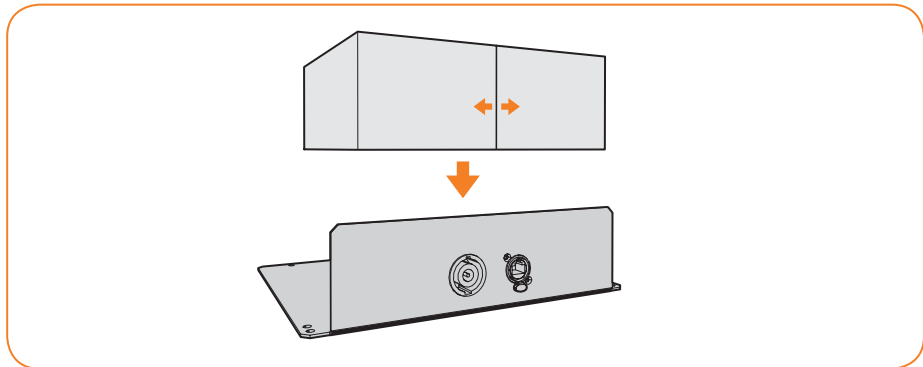
Attaching the REK 4 cover plate to the rear of the loudspeaker

- ▶ Hold the REK 4 cover plate in front of the loudspeaker's electronics recess, as shown below.



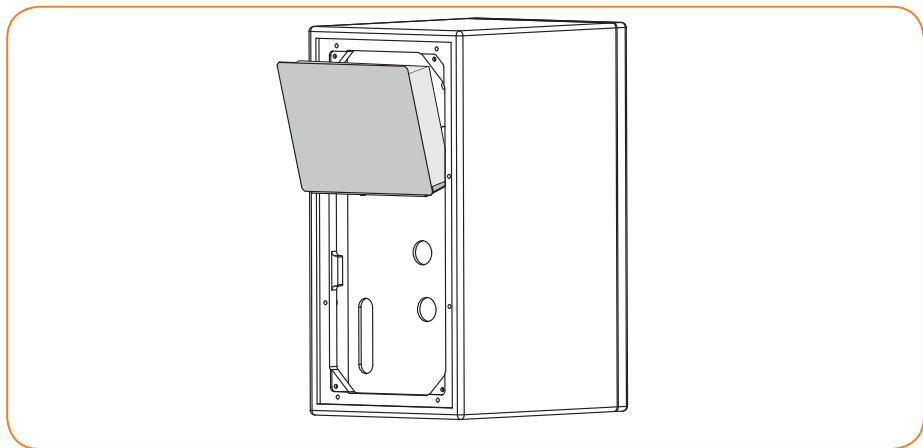
- ▶ Connect the 3-pin plug **A** of the bass driver cable to the 3-pin plug **A** of the cover plate.
- ▶ Connect the 4-pin plug **B** of the treble and midrange driver cable to the 4-pin plug **B** of the cover plate.
- ▶ Connect the 2-pin plug **C** of the display cable to the 2-pin plug **C** of the cover plate.

- ▶ Place the damping material on the cover plate. Gently open the damping material at the cut and place the cover plate cables inside the damping material.

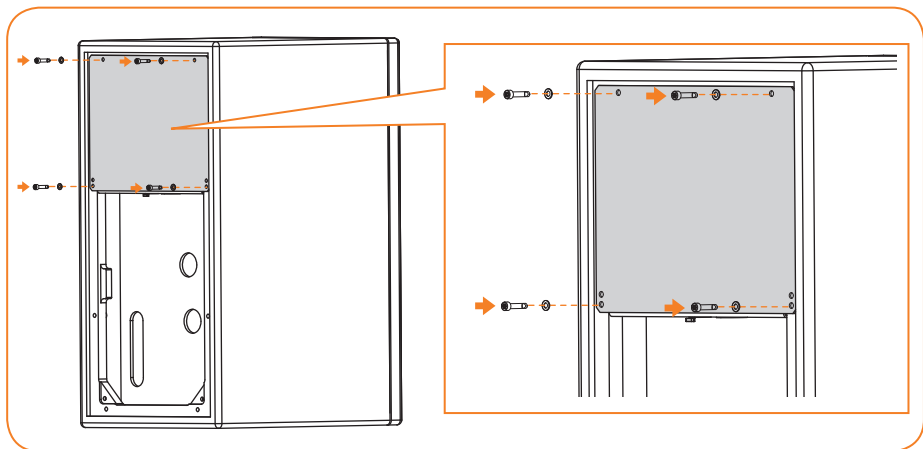


i If you do not fit the damping material, the cables of the loudspeaker may rattle during operation.

- ▶ Fit the cover plate and damping material into the loudspeaker's electronics recess, as shown below.
- ▶ Make sure not to squeeze the long cable between the cover plate and the cabinet.



- ▶ Fasten the cover plate using the four Torx 25 cylinder head screws and washers with a torque of 3 Nm, as shown below.



- ▶ Place the loudspeaker in the desired location.
- ▶ Connect the Neutrik Speakon and etherCON chassis connectors of the chassis and the cover plate with a CP cable pack (optional accessory).
- ▶ Connect the signal cables and the mains cable to the loudspeaker electronics.
- ▶ Switch on the loudspeaker and check the function of each of the drivers.



Cleaning and maintaining the REK 4

CAUTION

Damage to the product caused by liquids!

Liquids entering the product can cause a short-circuit in the loudspeaker electronics and damage or even destroy it.

▶ Keep all liquids away from the product.

▶ Before cleaning, disconnect the product from the mains power supply.

▶ Use a soft, dry, and lint-free cloth to clean the product.

Specifications

Loudspeaker electronics' chassis ⑤

| | |
|----------|--|
| Height | 573 mm (22 1/2") – 12 U |
| Width | 483 mm (19") |
| Depth | 93 mm (3 5/8") |
| Weight | 5 kg (11 lbs), without loudspeaker electronics |
| Color | black (RAL 9011) |
| Material | steel |

Cover plate for loudspeaker ②

| | |
|----------|------------------|
| Height | 230 mm (9") |
| Width | 282 mm (11 1/8") |
| Depth | 74 mm (3") |
| Weight | 1.2 kg (2.6 lbs) |
| Color | black (RAL 9011) |
| Material | steel |

Connectors

| | |
|---------|---|
| Drivers | Neutrik Speakon NLT8MP, 8-pin connector |
| Display | Neutrik etherCON NE8FBV |

Pin assignment of the CP cable pack

| Driver | Speakon pins |
|----------|--------------|
| Bass | 1 +/- |
| Not used | 2 +/- |
| Midrange | 3 +/- |
| Treble | 4 +/- |

Cross-section of the loudspeaker cables

| Cable length | Cable cross-section |
|--------------|------------------------------|
| < 20 m | 2.5 mm ² (14 AWG) |
| > 20 m | 4.0 mm ² (12 AWG) |



Accessories

| Product | Description |
|---------|------------------------|
| CP 2 | Cable pack, 2 m (6') |
| CP 5 | Cable pack, 5 m (15') |
| CP 10 | Cable pack, 10 m (30') |
| CP 15 | Cable pack, 15 m (45') |
| CP 20 | Cable pack, 20 m (60') |
| CP 25 | Cable pack, 25 m (75') |
| CP 30 | Cable pack, 30 m (90') |

Manufacturer Declarations

Guarantee

For the current terms and conditions of the product guarantee, please visit www.neumann.com.

CE Declaration of Conformity

After installing the loudspeaker electronics the REK 4 is in compliance with the following requirements:



- RoHS Directive (2011/65/EU)
- Low Voltage Directive (2006/95/EC)
- EMC Directive (2004/108/EC)

The declarations are available on the product page at www.neumann.com.

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