

K&F NOMOS XLC



User's Manual

Translation of the original instructions

Version 4.5

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**Important Information,
Please Read Before Use!**

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KLING &
FREITAG

SOUND SYSTEMS

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1. Introduction

Thank you for purchasing a KLING & FREITAG product. To guarantee a trouble-free operating of the equipment and to allow your KLING & FREITAG NOMOS XLC system to achieve its full potential read the user's manual carefully before use. This item is a quality accessory for the NOMOS XLC speaker system. As the owner of a NOMOS XLC loudspeaker, you now have a versatile and highly professional tool which, when operated properly, is a true pleasure to use.

1.1 Icons Used



Warning



Caution



This icon indicates a risk of injury or death. Not following these instructions may result in serious health problems including potentially fatal injuries.

This icon indicates a possibly dangerous situation. Not following these instructions may cause minor injuries or damage.

This icon marks instructions for proper use of the described products. Not following these instructions may cause malfunctions or damage.

1.2 About this Manual

User's Manual K&F NOMOS XLC.

© KLING & FREITAG GmbH, 2009, all rights reserved.

All specifications regarding the features of the described products and applicable safety guidelines provided in this manual are based on information available at the time of publishing.

We assume no responsibility for technical specifications, dimensions, weights, and properties.

All information in this manual is subject to change without notice.

To ensure safe operation, all persons using the speaker system must have access to these user's manual and all other relevant material during installation. Don't set up or operate the speaker system before you have carefully read and fully understood this user's manual. Keep the user's manual readily available on site at all times.

All KLING & FREITAG manuals are originally authored in German.

KLING & FREITAG spare manuals are separately available for order or can be downloaded from our website: www.kling-freitag.de.

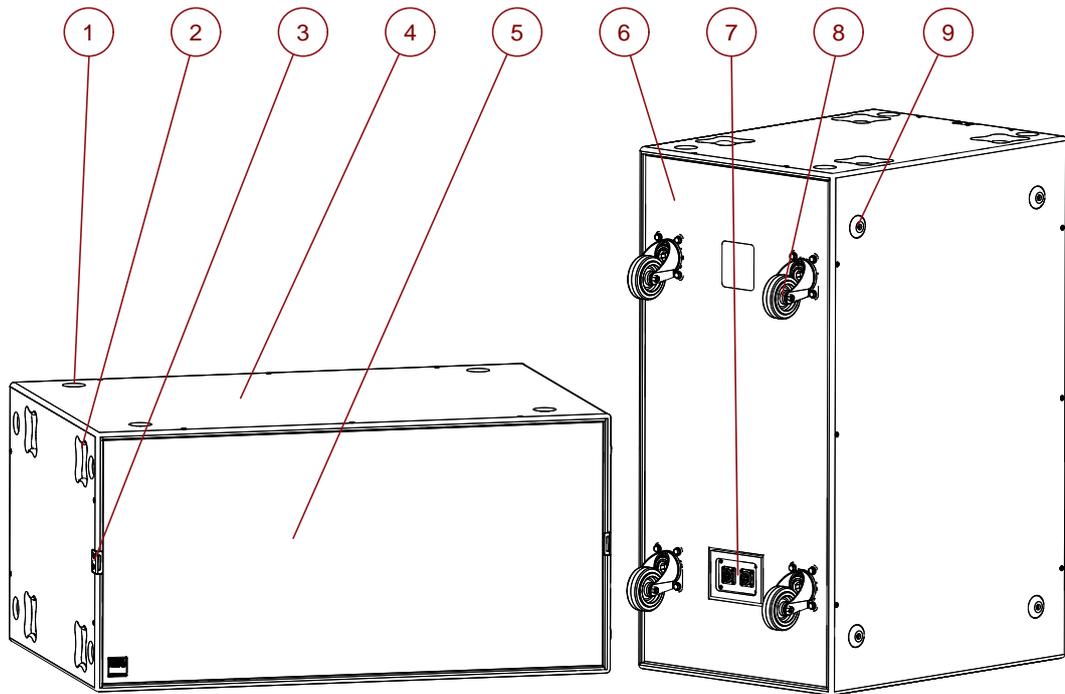
Contact Us: info@kling-freitag.de
KLING & FREITAG GMBH, Junkersstr. 14, D-30179 Hannover
Phone +49 511 96 99 70, fax +49 511 67 37 94 (other countries)

2. Product Description

2.1 Items Included

- Cardioid Bass Speaker NOMOS XLC
- (1x) User manual

2.2 Components



1. Stacking grooves (8x) , adjacent: plastic glider
2. Butterfly handles (8x)
3. locking profile
4. speaker enclosure
5. front grille with acoustic foam
6. rear grille with acoustic foam
7. SpeakOn connector
8. transport castors, 100 mm, permanently installed
9. Plastic glider (8x) , adjacent: stacking grooves

2.3 System Requirements

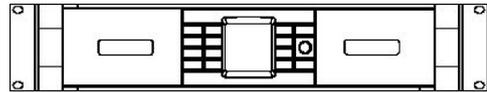
Lab.gruppen IPD 2400



or

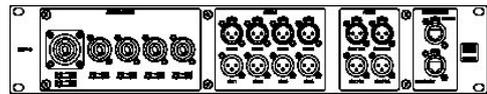
K&F PLM+ 20k44 (SystemAmp, ProRental)

K&F PLM+ 12k44 (SystemAmp, ProRental)



with

K&F Connector Panel CP+
Anschlussfeld
(optional)

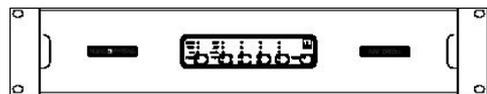


or

K&F D200:4 (SystemAmp, InstallSound)

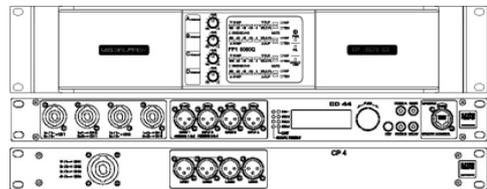
K&F D120:4 (SystemAmp, InstallSound)

K&F D80:4 (SystemAmp, InstallSound)



or

K&F SystemRack



3. Safety Instructions



Warning

For commercial use as specified in this document only!

To prevent personal injury and damage, be sure to securely place or suspend the speaker as specified in the locally applicable standards.

The information described here does not relieve the user of the duty to follow the given safety requirements and legal regulations.

The persons in charge with putting up the speaker are responsible for safe setup and use and must guarantee it.

In mobile and stationary installations, always use installation parts supplied by KLING & FREITAG.

Unless otherwise stated, use KLING & FREITAG original parts only. Never use other parts (in particular, parts not made by KLING & FREITAG).

Be sure to always visually inspect all safety-related speaker and accessory components before use. In fixed installations, check the speaker for signs of wear at regular intervals. If there are signs of wear, cracks, or deformation, etc., replace the affected parts immediately.



Caution

Run the cables in a way that nobody can trip over them.

At least 2 people are necessary to carry the speaker.

Preventing Hearing Damage

Keep your distance from operating speakers. Even loudness levels of approx. 90 dB - that you subjectively judge as being low - can lead to hearing damage.

3.1 Safety Instructions for Stacked Setups



Warning

Falling speakers pose the threat of fatal injuries to people near them!

Be sure to follow the relevant national specifications, norms, and safety regulations.

Always make sure that a sufficient safety level is still given, even when outside forces have an additional impact on the stacked speakers. Before setup, carefully ascertain if there are any possible outside forces that could result in the array falling over. (Slant of the ground / the bearing capacity of the ground / wind / person or vehicle impact, etc.). A technical expert who is responsible for the setup must evaluate and determine necessary measures (including calculating the statics). If necessary, obtain expert proof of stability.

Stacked systems may not fall over even if they are inclined by 15° in each direction. If this requirement is not fulfilled, then it is necessary to take steps to achieve compliance. Possible measures include strapping it to an appropriate base structure or fastening it using safety straps. A planned tilt of the loudspeakers is not permissible. In calculations, the tilted setup serves the purpose of levelling out unevenness.

With the set-up systems for which you cannot verify the structural safety without safeguards, you must secure them to prevent sliding or tipping in order to provide proof of this safety. To secure the system from tipping over, use water tanks or floor bolts. Other possible measures include strapping it to a suitable substructure or tying it using safety straps.

For outdoor and trade fair venues in which wind loads must be considered, additional proof of stability is necessary.

Make sure that the stacking feet of subwoofers stacked on top of one another are securely positioned in the grooves of the lower speaker.

If you place a top speaker on a NOMOS XLC you must always strap the speakers to one another and secure them from falling over.

3.2 Protecting the Speakers / Operating Safety

Notice

NOMOS XLC speakers may only be used in combination with a K&F SystemAmp/SystemRack. System Requirements for Use

In general, audio signals must not be overdriven. This may be caused by mixing consoles, equalizers, effect equipment, etc. and should be indicated on this equipment. When a power amplifier is overloaded at the output (clipping), then the amplifier activates a clipping warning signal. In any case, the signal must be reduced as soon as it sounds unnaturally distorted.

The following signals may damage the speakers:

- permanent high-level signals with high frequency and continuous noise from feedback,
- permanently distorted high-level signals,
- noises, which occur when the amplifier is on while equipment is being connected, disconnected or switched on.

Do not install devices in any of the following places:

- where the devices are permanently exposed to direct sunlight.
- where the devices are exposed to high moisture or rain.
- where the devices are exposed to strong vibrations and dust.
- where low air circulation (convection) prevails.
- that have a small distance to a wall.

Damage caused by the speakers' magnetic fields

Speakers are permanently surrounded by a magnetic field, even when they are not connected. Therefore, during transport and placement of the speakers, it is important to ensure that there is always approx. 1 m between the speakers and magnetic data media and computer/video monitors.

For damage caused by

- overloading the speakers or
- using the speakers without K&F SystemAmp/SystemRack

we do not assume warranty and excludes liability for possible consequential damage.

4. NOMOS XLC combined with other K&F tops.

The NOMOS XLC can be combined with K&F top speakers using the controller K&F CD 44.

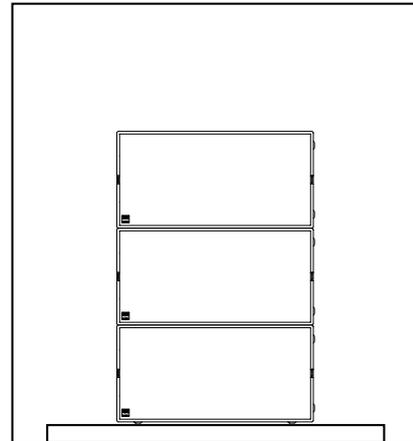
- To do so, select the desired LS blocks for the top in the Controller CD 44 or systemamp TOPAS, and combine these with the desired LS block for the NOMOS XLC.

In the respective Hardware Manuals, you will find detailed descriptions about connecting the SEQUENZA 10 speakers and the settings necessary on the System Controller CD 44. SEQUENZA 10 N/W

5. Stacking the Subwoofers

1. Securely place the bottom subwoofer onto a level surface.
2. Stack the subwoofers on top of one another.

Make sure that the stacking feet of subwoofers stacked on top of one another are securely positioned in the grooves of the lower speaker.



You must additionally secure vertically standing stacked NOMOS XLC systems from falling since the structural safety is not guaranteed, otherwise.



6. Cardioid Arrays with CD 44

The subwoofer NOMOS XLC is a cardioid loudspeaker.

A cardioid array results in an increase of sound pressure towards the front because of the rear-facing subwoofer. In the rear area (**cardioid**) or in the lateral side area (**hypercardioid**), on the other hand, the sound pressure is clearly reduced.

With this, you achieve

- less unwanted sound on the stage
- low feedback
- simplified miking
- improved room acoustics with fewer reflections from the rear and side walls, or – when flown – from the ceiling
- simplified adherence of sound emission limits and therefore less noise disturbance for nearby residential areas during open air events.

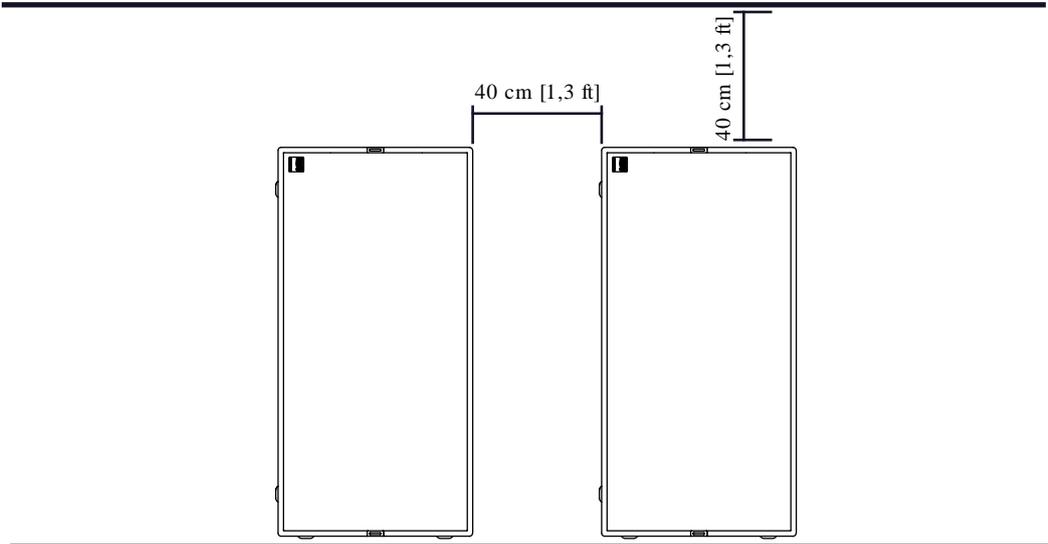
6.1 Setup instructions for a cardioid array

In order to implement a cardioid or hyper-cardioid setup, the fronts of the speakers must face the audience.

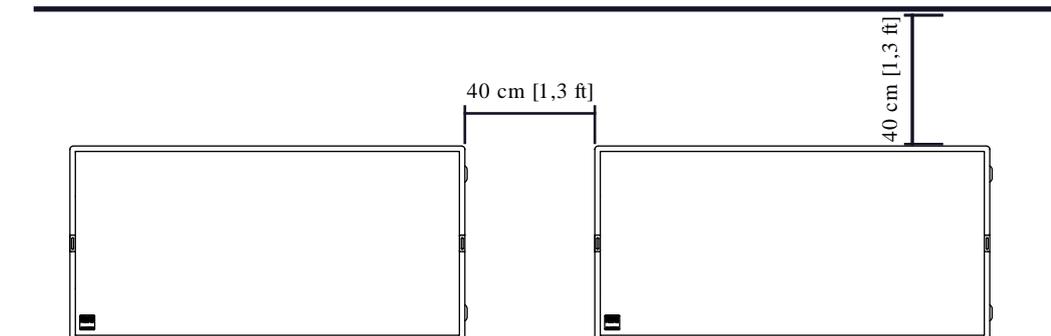
When cardioid speakers are put on the floor, ensure that there is always a distance of at least 40 cm between and over the speakers.

We recommend a safe distance to a possible obstruction of at least one meter (1 m).

Distance at standing speakers:



Distance at lying speakers:



6.2 LSBlocks for cardioid useNOMOS XLC

The following cardioid or hypercardioid setups are available in the K&F CD 44. All setups with a cutoff frequency other than 60 Hz have a cutoff frequency of 100 Hz.

Operating mode	Chassis	LSBlocks (NomXLC)
'Cardioid'	front	NomXLC C-F
	rear	NomXLC C-R
'Hypercardioid'	front	NomXLC H-F
	rear	NomXLC H-R
'Infrabass Cardioid'	front	NomXLC C-F60Hz
	rear	NomXLC C-R60Hz
'Infrabass Hypercardioid'	Front	NomXLC H-F60Hz
	Rear	NomXLC H-R60Hz

7. Fuse in the NOMOS XLC

To increase the operating safety of the NOMOS XLC, the subwoofers are equipped with fuses at the signal input. These fuses reduce the risk of consequential damage resulting from a short circuit (i.e. charred cables / connectors / fire damage).

7.1 Replacing the Fuses

The fuse holder is behind the rear chassis.

Replace the fuse with the following original fuse only:

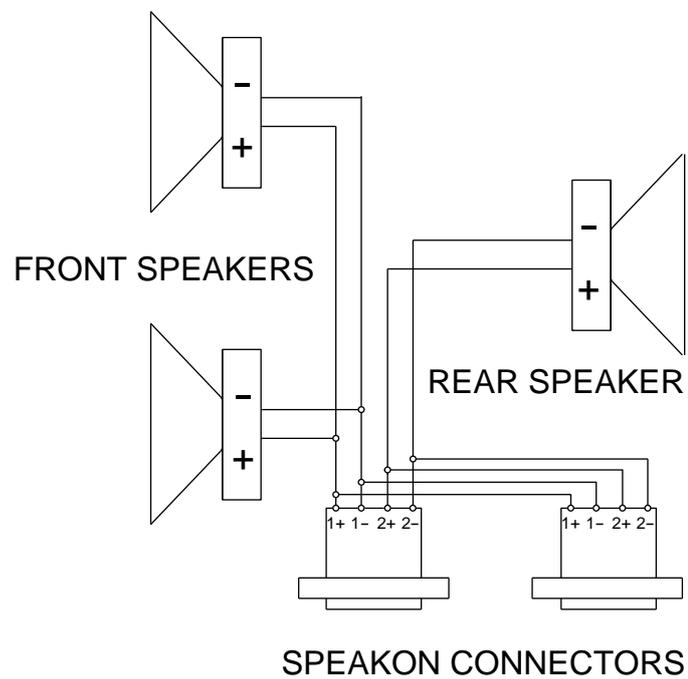
Bussmann S 506-8A, T 250 V

8. Connection

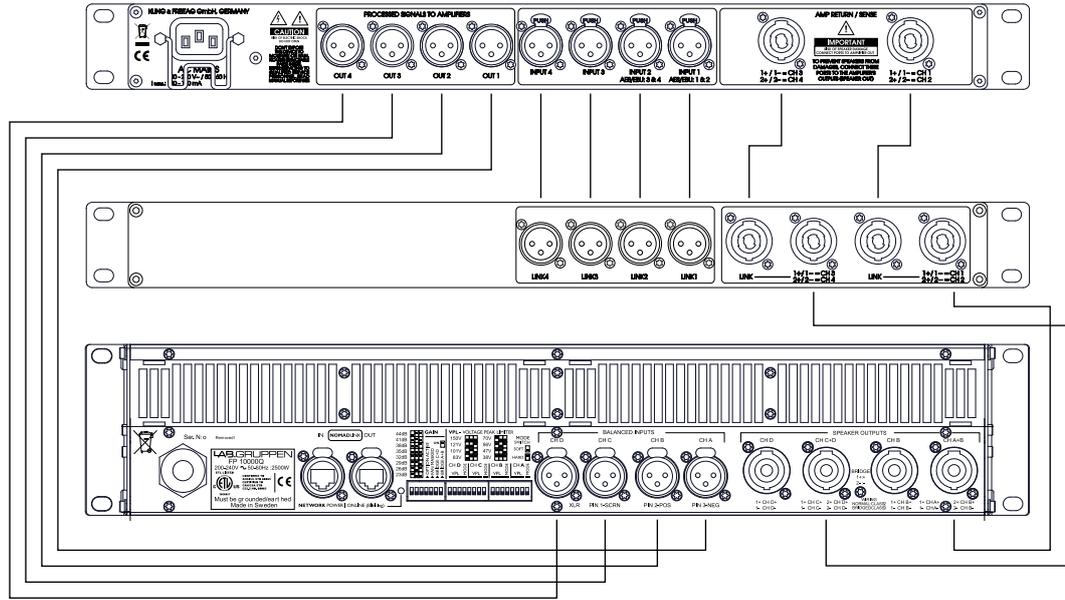
Notice

The operating safety and the highest-possible performance is only guaranteed in conjunction with the K&F Topas or K&F SystemRack.

8.1 Terminal assignment

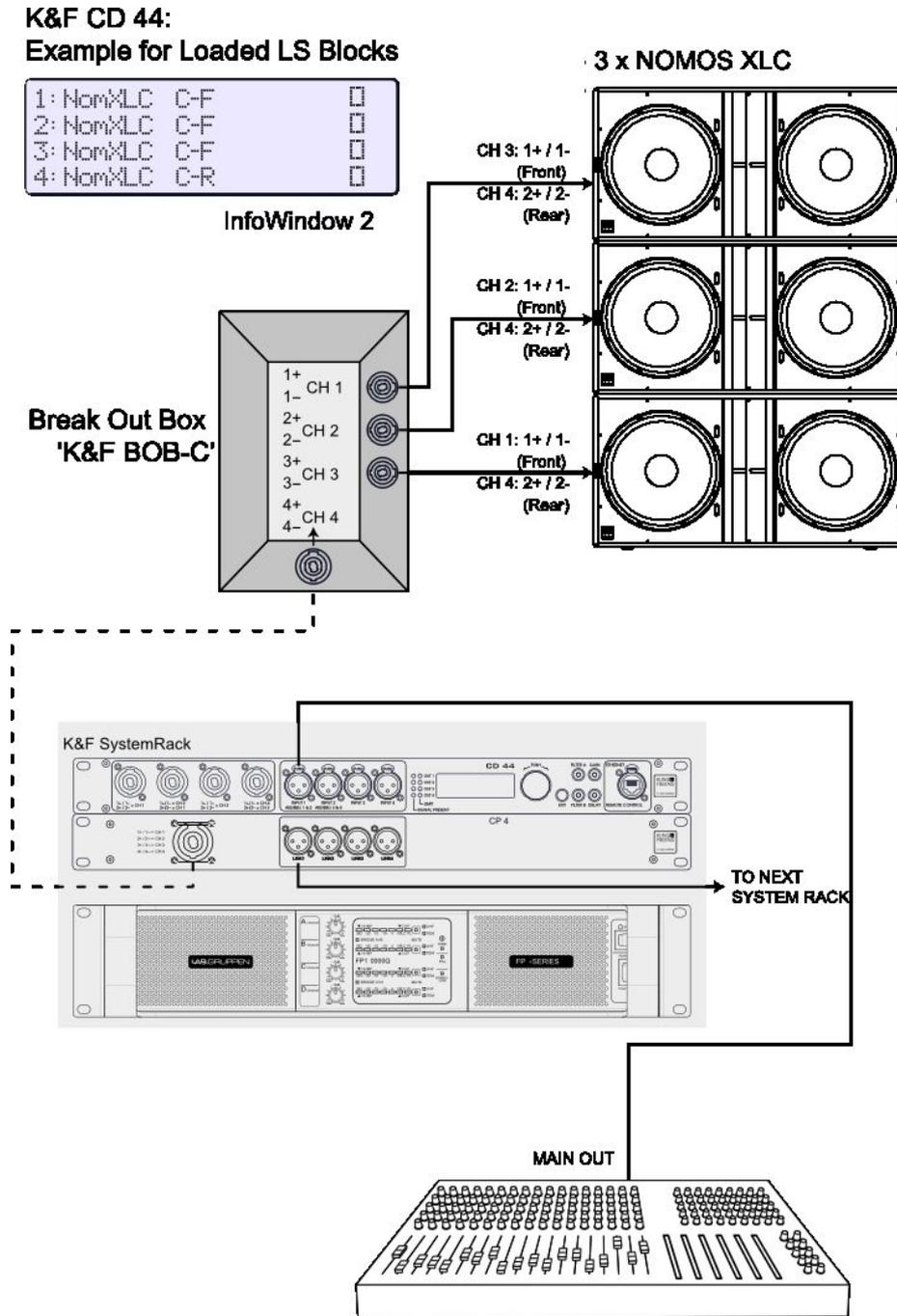


8.2 Cabling a K&F System Rack



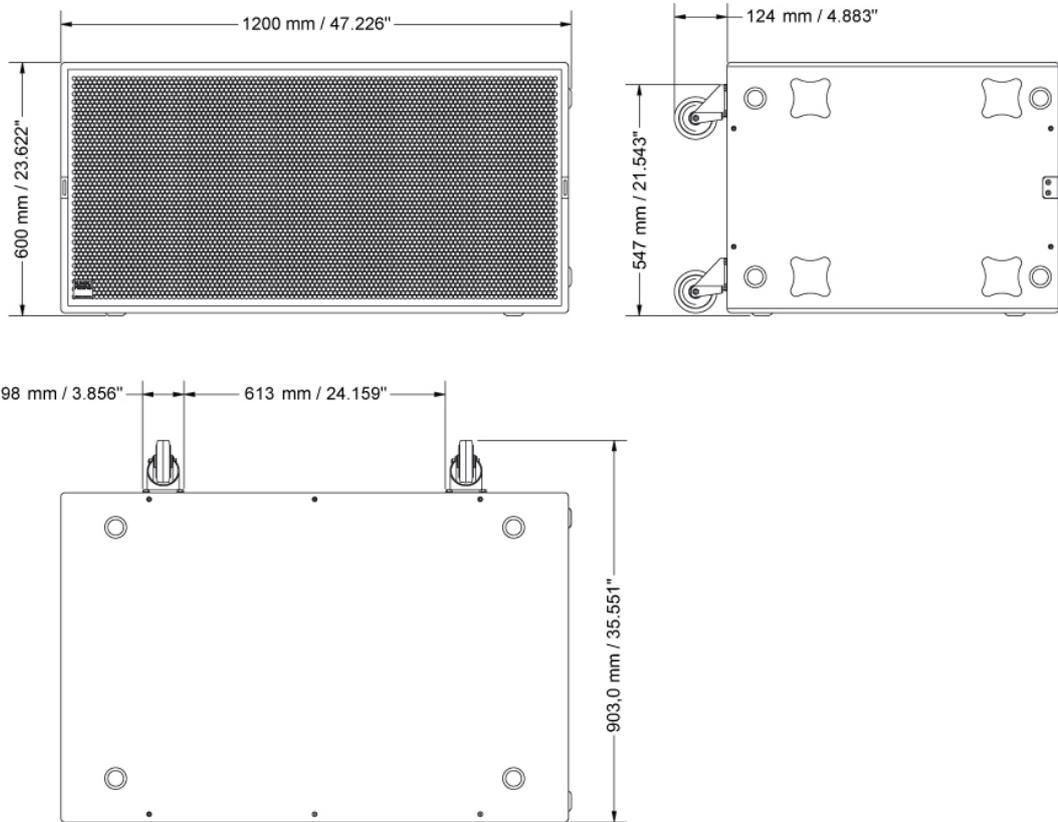
8.3 Connecting the NOMOS XLC

The following connecting diagram shows an example with the K&F CD 44 Routing '1 in 4 out'. A maximum of 3 NOMOS XLC subwoofers can be driven by one K&F SystemRack. If you want to use 3 NOMOS XLC subwoofers with a K&F SystemRack you will need the Break Out Box 'K&F BOB-C' available as an accessory.



9. Dimensions NOMOS XLC

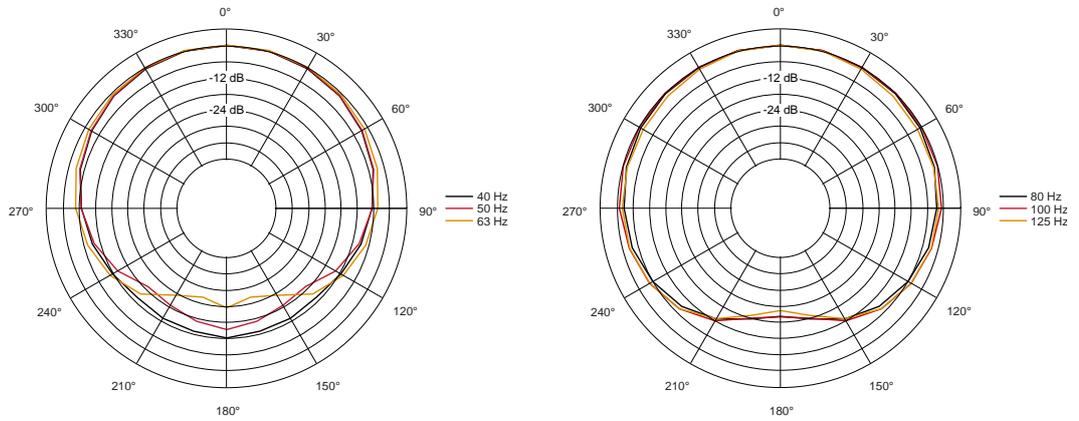
Weight: 95,0 kg



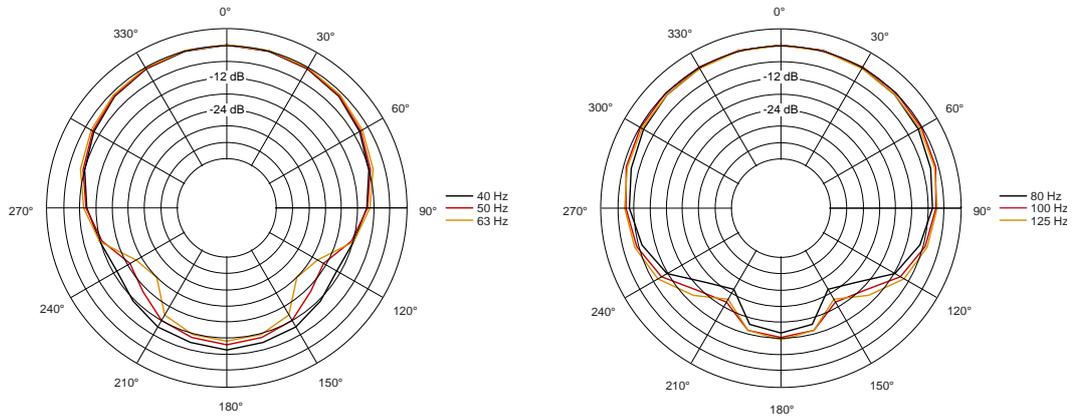
10. Measuring Diagrams

Polar Patterns

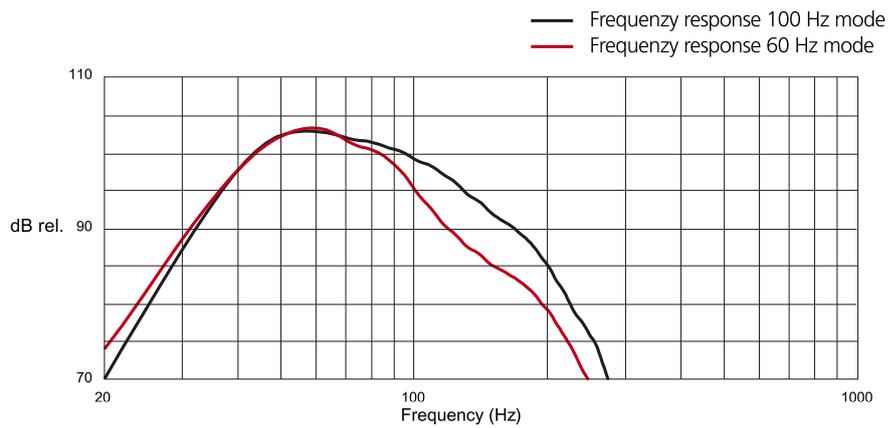
Cardioid



Hypercardioid



Frequency response



11. Technical Specifications

NOMOS XLC	
Concept	Bass reflex system
Operated with	K&F PLM+ Serie, K&F D-Serie, K&F SystemRack, K&F TOPAS
Lower cut-off frequency	33 Hz (-3 dB)/28 Hz (-10 dB)
Coverage	Cardioid/Hypercardioid
Nominal power handling	1000 watts (front) 500 watts (rear)
program	2000 Watt (front) 1000 Watt (rear)
peak	4000 watts (front) 2000 watts (rear)
Max. SPL (1 m)	139 dB (SPL Peak/1 m/half space)
Impedance nominal	4 Ohm (front) 8 Ohm (rear)
loudspeaker/channel	see matrix
Components	3 x 18" long excursion chassis, 100 mm voice coil with double centring, internal and external ventilation, demodulation ring for minimal distortion
Connection	2 x Speakon® 4-pin NLT4MP front speakers: 1+ / 1- rear speaker: 2+ / 2- IN parallel to OUT
Enclosure Design	
	Frame reinforced enclosure, 15 mm multiplex with highly resilient Polyurea synthetic black coating, 8 ergonomical butterfly handles, 8 non-abrasive plastic sliders, 8 stacking grooves for save stacking of identical enclosures, 4 x 100 mm transport castors, 2 locking profiles for transport optional transport cover, ballproof steel grille with exchangeable black acoustic foam
Dimensions (H x W x D)	1200 x 600 x 903 mm
Weight	95.0 kg/Transport Cover: 8.7 kg (optional accessorie)

1) Pink noise 40 – 250 Hz, 2 h; 2) as 1) but with 50% duty cycle

Measureings taken with the K&F SystemRack. The K&F SystemRack is required for operation of the K&F NOMOS XLC.

12. EC Declaration of Conformity

applicable to all products designated hereafter and distributed by KLING & FREITAG GmbH including model variants unless these products have been altered afterwards.

Loudspeaker systems:

ACCESS B5	E 90 MK II	SEQUENZA 10 B
ACCESS B10	LINE 212 -6/-9	SEQUENZA 5 W
ACCESS T5/T9	NOMOS LS CIN	SEQUENZA 5 B
CA 106	NOMOS LS II	SONA 5 **)
CA 205 *) **)	NOMOS LT	SONA 6
CA 1001	NOMOS XLC	SONA 8
CA 1201 *)	NOMOS XLS	SONA SUB **)
CA 1215 -6/-9	NOMOS XLT	SONS SUB II
CA 1515 -6/-9	PASSIO **)	SW 112
GRAVIS 8 W	PASSIO SUB 12	SW 115D *)
GRAVIS 12 N/W*	PASSIO SUB 15	SW 115E
GRAVIS 12+ N/W/XW	SCENA 15	SW 118E
GRAVIS 15 N/W/XW	SEQUENZA 10 N/W	SW 212E

*) These products are discontinued.

***) These systems are not covered by the Low Voltage Directive because of the rated voltage used.

We declare that the designated product(s) are in conformity with the protection requirements imposed by the following EU directives:

Electromagnetic Compatibility (EMC) Directive	(2004/108/EC)
Low Voltage Directive	(2006/95/EC)
Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances	(VDE 0042-12:2013-02)

The operating conditions specified in these user's manual must be met accordingly.

This declaration is issued under sole responsibility of the manufacturer:

KLING & FREITAG GmbH
Junkersstraße 14, D-30179 Hannover, Germany

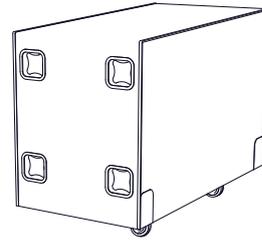


Hannover, 30th March 2015

Jürgen Freitag
 (Managing Director / CEO)

13. Accessories

Protective Cover NOMOS XLC

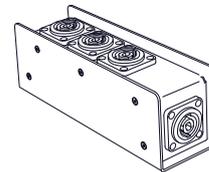


Transport Cover NOMOS XLC



K&F BOB-C:

Speaker signal distributor, 1 x 8-pin into 3 x 4-pin. For operations of 3 x NOMOS XLC with a K&F SystemRack.



14. Transportation and Storage

The housing of the speaker is protected against short-term moisture by a coating. Despite, be sure to store, transport, and use the accessories in dry environments only. The NOMOS XLC System is not designed for long-term use in a corrosive environment.

Make sure that the system is adequately ventilated during longer storage periods so any residual moisture can escape from the equipment.

Furthermore, you should ensure that the NOMOS XLC System is protected from mechanical strain to prevent possible damage.

We recommend using the optional soft cover.

15. Disposal

15.1 Regulations for Disposal

15.1.1 Germany

Don't dispose of waste electrical equipment through household waste.

Don't deliver it to official recycling points either.

All KLING & FREITAG products are plain business-to-business (B2B) products. Therefore, KLING & FREITAG GmbH is exclusively responsible for disposing of all KLING & FREITAG waste equipment marked with a garbage-can icon. Please call the below phone number when you have a KLING & FREITAG product (marked with the garbage-can icon) for disposal. We will offer you a straightforward and professional disposal at no cost.

KLING & FREITAG equipment with no such icon was sold before 24 March 2006; in that case, the owner is legally responsible for disposal. We will, however, gladly assist you by naming appropriate ways of disposal.

For further disposal information of KLING & FREITAG waste products, call +49 (0)511-96 99 7-0

Background information: The Electrical and Electronic Equipment and Appliances Act (ElektroG) is the German implementation of the European (EU) Waste Electrical and Electronic Equipment Directive (WEEE, 2002/96/EC).

Therefore, starting on 24 March 2006, KLING & FREITAG GmbH has marked all products subject to the WEEE that are distributed in Germany with an icon showing a crossed-out garbage can with a white bar below it. The icon indicates that the equipment was distributed on or after 24 March 2006 and must not be disposed of through household waste.

KLING & FREITAG GmbH is legally registered as a manufacturer with the German waste-equipment registration authority (EAR). The WEEE registration number is: DE64110372.

We substantiated towards the EAR that our products are for B2B trade only.

15.1.2 EU, Norway, Iceland, and Liechtenstein

Don't dispose of waste electrical equipment through household waste.

Starting on 13 August 2005, KLING & FREITAG GMBH has marked all products subject to the WEEE directive that are distributed in any member state of the European Union (except Germany), Norway, Iceland, or Liechtenstein with an icon showing a crossed-out garbage can with a white bar below it. The icon indicates that the equipment was distributed on or after 13 August 2005 and must not be disposed of through household waste.

Unfortunately, the European WEEE directive was implemented in different national legislation in the EU member states, making it impossible to offer a consistent disposal solution throughout Europe.

The local distributor (sales partner) in the respective country is responsible for complying with the applicable legislation.

Contact your retailer or the local authorities for information on the regulations applicable in any EU member state (except Germany).

15.1.3 All Other Countries

Contact your retailer or the local authorities for information on the regulations applicable in any country not listed above.

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