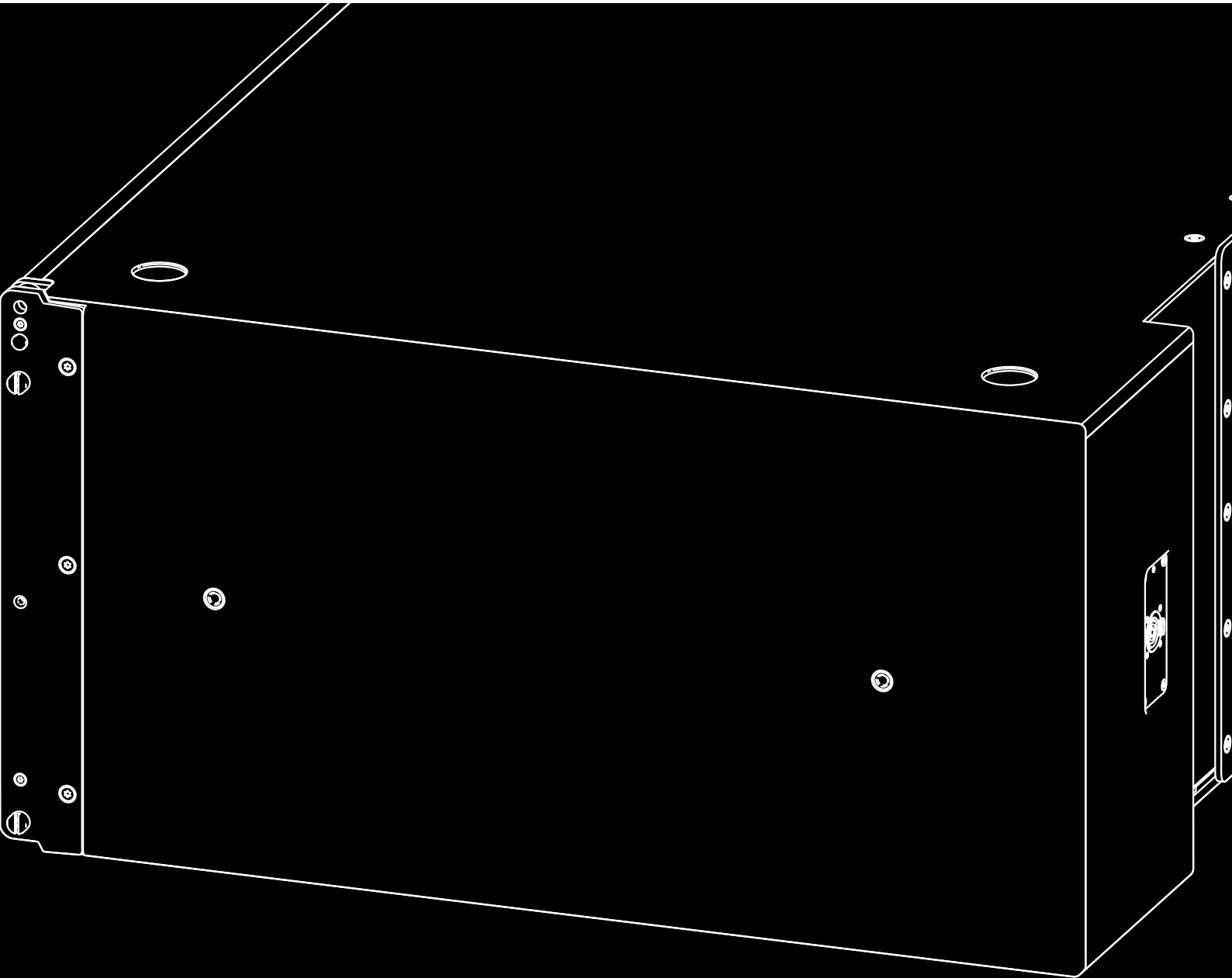


# SL

**KSLi-SUB/KSLi-GSUB**  
**Manual 1.1 en**



## **General information**

KSLi-SUB/KSLi-GSUB Manual

Version: 1.1 en, 05/2020, D2738.EN .01

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## Potential risk of personal injury

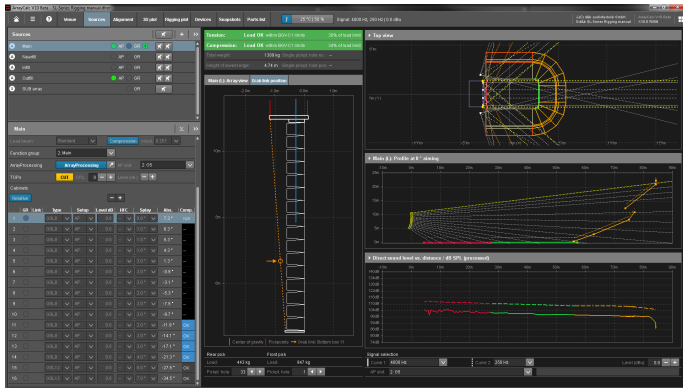
Never stand in the immediate vicinity of loudspeakers driven at a high level. Professional loudspeaker systems are capable of causing a sound pressure level detrimental to human health. Seemingly non-critical sound levels (from approx. 95 dB SPL) can cause hearing damage if people are exposed to it over a long period.

In order to prevent accidents when deploying loudspeakers on the ground or when flown, please take note of the following:

- When setting up the loudspeakers or loudspeaker stands, make sure they are standing on a firm surface. If you place several systems on top of one another, use straps to secure them against movement.
- Only use accessories which have been tested and approved by d&b for assembly and mobile deployment. Pay attention to the correct application and maximum load capacity of the accessories as detailed in our specific "Mounting instructions" or in our "Flying system and Rigging manuals".
- Ensure that all additional hardware, fixings and fasteners used for installation or mobile deployment are of an appropriate size and load safety factor. Pay attention to the manufacturers' instructions and to the relevant safety guidelines.
- Regularly check the loudspeaker housings and accessories for visible signs of wear and tear, and replace them when necessary.
- Regularly check all load bearing bolts in the mounting devices.

## Potential risk of material damage


Loudspeakers produce a static magnetic field even if they are not connected or are not in use. Therefore make sure when erecting and transporting loudspeakers that they are nowhere near equipment and objects which may be impaired or damaged by an external magnetic field. Generally speaking, a distance of 0.5 m (1.5 ft) from magnetic data carriers (floppy disks, audio and video tapes, bank cards, etc.) is sufficient; a distance of more than 1 m (3 ft) may be necessary with computer and video monitors.



**d&b ArrayCalc**

### 1.1 d&b ArrayCalc

For both safety and acoustic reasons, d&b line arrays must be designed using the d&b ArrayCalc simulation software. The software is available as a native stand-alone application for both Microsoft Windows and Mac OS X operating systems and can be downloaded at [www.dbaudio.com](http://www.dbaudio.com).

Detailed information on how to use and operate ArrayCalc is provided by the Help system of the software. To access the help system, press F1 or select the help button (  ) from the ArrayCalc toolbar. This will launch the «Help» which provides an overview of the program as well as a search function and direct access to the related topics.

In addition, ArrayCalc will provide you with typical array configurations within the permitted load limits and will help you get familiar with the mechanical load conditions and limitations.

#### d&b TI 385

Further information on line array design can be found in "TI 385 d&b Line array design, ArrayCalc". The TI is supplied with the software or can be downloaded from the d&b website at [www.dbaudio.com](http://www.dbaudio.com).

#### d&b Seminar

We also recommend you to attend the regularly hosted d&b Line array training seminars. Further information regarding the d&b seminars and a seminar schedule can also be found on the d&b website at [www.dbaudio.com](http://www.dbaudio.com).

#### d&b Video tutorials

In addition, d&b provides related video tutorials which can also be found on the d&b website at [www.dbaudio.com](http://www.dbaudio.com) or [www.sl-series.com](http://www.sl-series.com).

### 2.1 Intended use

#### NOTICE!

Only operate d&b SL-Series loudspeakers with the specified and correctly configured d&b amplifiers, otherwise there is a risk of damaging the loudspeaker components and the directional characteristics of the system cannot be achieved.

**Applicable d&b amplifiers:** 40D

#### Product description

The KSLi-SUB and KSLi-GSUB are the installation specific cardioid subwoofers for the KSLi system. They can be used to supplement KSLi8 and KSLi12 cabinets, either flown (KSLi-SUB) or ground stacked (KSLi-GSUB).

When the Z5744 KSLi-SUB Mounting frame is used, KSLi-SUB cabinets can be flown as pure SUB columns or in mixed arrays in combination with KSLi-TOP cabinets using the additional Z5745 KSLi-SUB Mounting adapter.

Both cabinets are actively driven, 2-way bass-reflex designs housing three long excursion neodymium 15" drivers. Two drivers face to the front while one driver radiates to the rear of the cabinet.

Front and rear drivers are driven by separate amplifier channels and operate in independent bass reflex chambers. Through its cardioid dispersion pattern, this setup avoids unwanted energy behind the system and greatly reduces the reverberant field at low frequencies providing highest accuracy in low frequency reproduction. The frequency response extends from 36 Hz to 105 Hz (33 Hz to 75 Hz - INFRA mode).

The cabinet enclosures are constructed from marine plywood and have an impact and weather protected PCP (Polyurea Cabinet Protection) finish. The front and rear of the cabinets are protected by rigid metal grills. Each side panel incorporates two slots to accept dedicated lifting pins (T-handles). During setup, these pins serve as a temporary lifting aid and can be inserted and locked when needed.

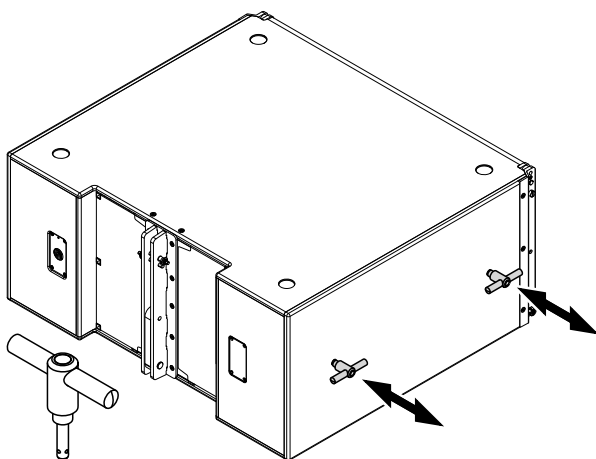
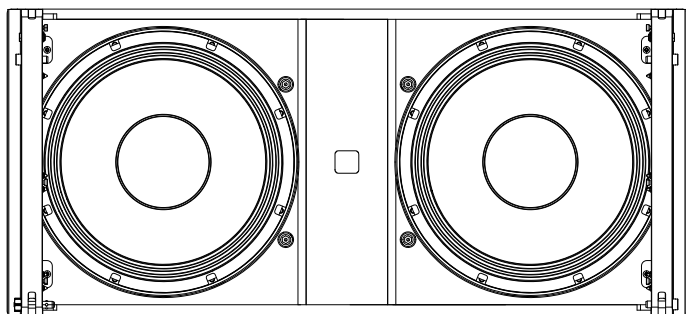
Four rubber feet prevent cabinet movement and protect the bottom panel against scratching. Correspondingly shaped recesses in the top panel of the cabinet prevent cabinet movement when stacking KSLi-GSUBs or KSLi-SUBs.

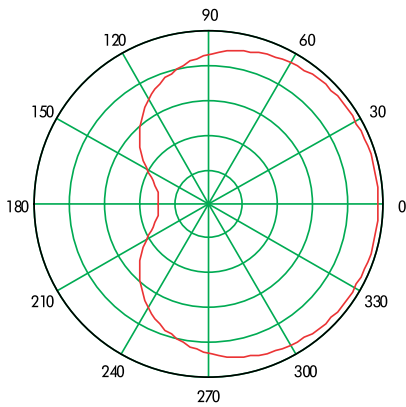
The KSLi-SUB cabinet incorporates front and rear rigging strands while the KSLi-GSUB comes without any rigging components and is intended for ground stacked purposes.

#### Rigging components and arrays

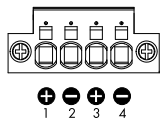
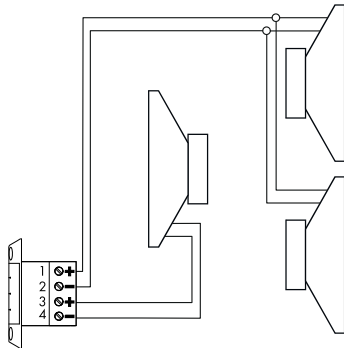
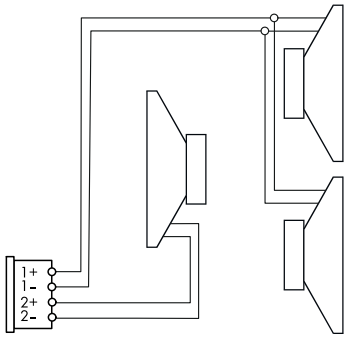
The cabinets are mechanically connected using the rigging strands on both sides of the cabinet front and a central strand at the rear of the cabinet. All necessary rigging components are mounted on the cabinet and fold out or slide out when needed.

A detailed description of the rigging components is given in the respective rigging manuals.





**Cardioid dispersion pattern**



**Connector wiring**  
**NLT4 F**  
**Phoenix option**

**Cardioid dispersion**

Cardioid dispersion avoids unwanted energy behind the system and greatly reduces the excitation of the reverberant field at low frequencies providing the greatest accuracy of low frequency reproduction. The subwoofers can be used as stand-alone solutions or in stacked combinations with a minimum distance of 60 cm (2 ft) between adjacent cabinets or between the subwoofers and a side wall. When positioned in front of walls, the minimum distance to rear walls is maintained by the wheels mounted at the rear of the cabinet.

**2.2 Connections**

The cabinets are fitted with a single NLT4 F connector using the pin assignment 1+/1- for the front drivers and pins 2+/2- for the rear driver.

**Phoenix option**

**NOTICE!**

**Risk of damage to the system components!**

Different pin assignment on the loudspeaker and amplifier.

⇒ Please refer to the corresponding amplifier manual.

Cabinets with the Phoenix option are fitted with a 4-pole Phoenix connector socket (type: DFK PC 4/4 GF) using the following pin assignment:

- Pins 1+/2- feeding the forward LF drivers.
- Pins 3+/4- feeding the rear LF driver.

**Phoenix specifications and recommendations**

The cabinet comes with a Phoenix plug (type: SPC 5/4 Push-in spring connector) which is already connected to the corresponding Phoenix socket of the cabinet.

The plug allows for direct wire connection without any tools depending on the cross-section and conductor structure.

**Technical specifications**

Conductor cross-section .....	
Flexible, ferrule without plastic sleeve .....	up to 6 mm <sup>2</sup> (AWG 9)
Flexible, ferrule with plastic sleeve .....	up to 4 mm <sup>2</sup> (AWG 11)
Ferrule length (min/max) .....	10/15 mm
Release tool .....	Flat-tip screwdriver 0.6 x 3.5 x 100 mm

**Recommended connecting cable**

d&b K3116.100 MC2 SWR .....	2 x 2.5 mm <sup>2</sup> (AWG 13)
.....	Ferrule without plastic sleeve (enclosed with the cabinet)

**d&b LoadMatch**

With the d&b four channel amplifier platform, the LoadMatch function enables the amplifier to electrically compensate for the properties of the loudspeaker cable used without the need for an additional sense wire. For applicable loudspeakers, LoadMatch is therefore independent of the connector type used.

## 2.3 Operation

Amplifier output mode(s): 2-Way Active		
Application	Setup	Cabinets per pair of amplifier channels
<b>KSLi-SUB</b>	KSL-SUB	1
	KSL-SUB AP	1
<b>KSLi-GSUB</b>	KSL-SUB	1
	KSL-SUB AP	1

### AP setup

In connection with d&b ArrayProcessing (AP), the AP setup contains the AP data that are generated in the ArrayCalc simulation software and transferred to the applicable amplifiers via the d&b Remote network using R1.

As soon as the data have been sent to the amplifiers, the AP setup will be automatically activated.

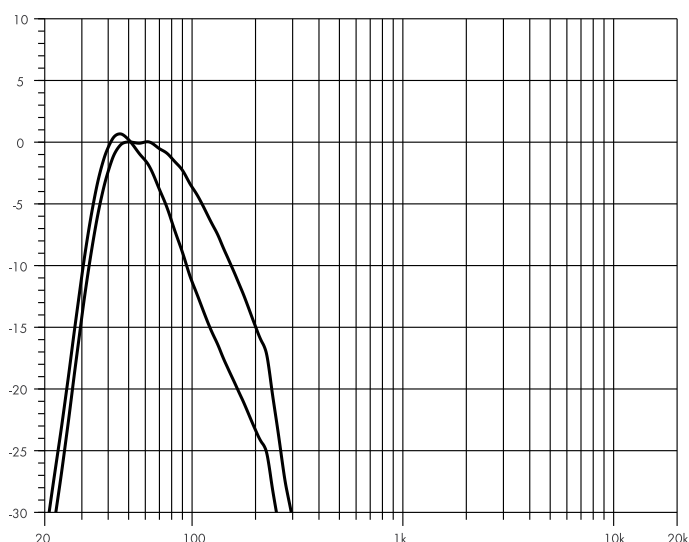
### 2.3.1 Controller settings

For acoustic adjustment the INFRA mode can be selected.

#### INFRA mode

With the INFRA mode selected, the frequency response of the system extends from 33 Hz to 75 Hz.

The KSLi-SUB/KSLi-GSUB can now be used to supplement applicable d&b loudspeaker systems operated in full range mode.



**KSLi-SUB frequency response, standard and INFRA mode**

## 2.4 Technical specifications

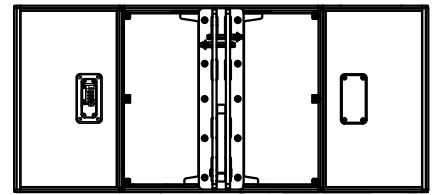
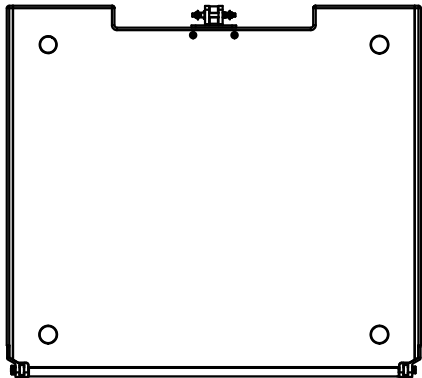
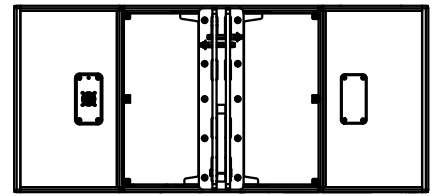
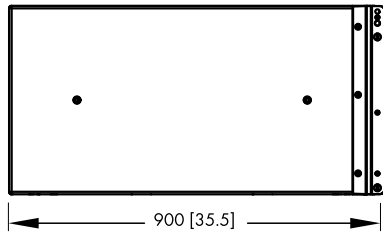
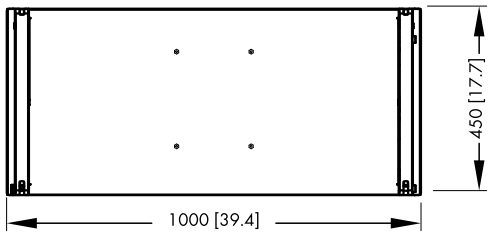
### System data

Frequency response (-5 dB standard) ..... 36 Hz - 105 Hz  
 Frequency response (-5 dB INFRA) ..... 33 Hz - 75 Hz  
 Max. sound pressure (1 m, free field) with 40D ..... 139 dB  
 ..... (SPLmax: Broadband signal IEC 60268)

### Loudspeaker data

Nominal impedance front/rear ..... 4/8 ohms  
 Power handling capacity front (RMS/peak 10 ms) ..... 900/3500 W  
 Power handling capacity rear (RMS/peak 10 ms) ..... 500/2000 W  
 Components ..... 3 x 15" driver  
 Connections ..... 1 x NLT4 F  
 Pin assignment .....  
 ..... 1+: Front+/1 -: Front- /2+: Rear+/2 -: Rear-  
 Phoenix option ..... Phoenix socket (Type: DFK PC 4/4 GF)  
 ..... Phoenix plug (Type: SPC 5/4)  
 Optional front splay (KSLi-SUB) ..... 0° or 2°  
 Weight KSLi-SUB ..... 82 kg (181 lb)  
 Weight KSLi-GSUB ..... 78 kg (172 lb)





**KSLi-SUB cabinet dimensions in mm [inch]\***

\*The same dimensions apply to the KSLi-GSUB



### 3.1 EU conformity of loudspeakers (CE symbol)

This declaration applies to:

**d&b Z0795 KSLi-SUB loudspeaker**

**d&b Z0796 KSLi-GSUB loudspeaker**

manufactured by d&b audiotechnik GmbH & Co. KG.

All product variants are included, provided they correspond to the original technical version and have not been subject to any later design or electromechanical modifications.

We herewith declare that said products are in conformity with the provisions of the respective EC directives including all applicable amendments.

A detailed declaration is available on request and can be ordered from d&b or downloaded from the d&b website at [www.dbaudio.com](http://www.dbaudio.com).

### 3.2 WEEE Declaration (Disposal)

Electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime.

Please dispose of this product according to the respective national regulations or contractual agreements. If there are any further questions concerning the disposal of this product, please contact d&b audiotechnik.

**WEEE-Reg.-Nr. DE: 13421928**

