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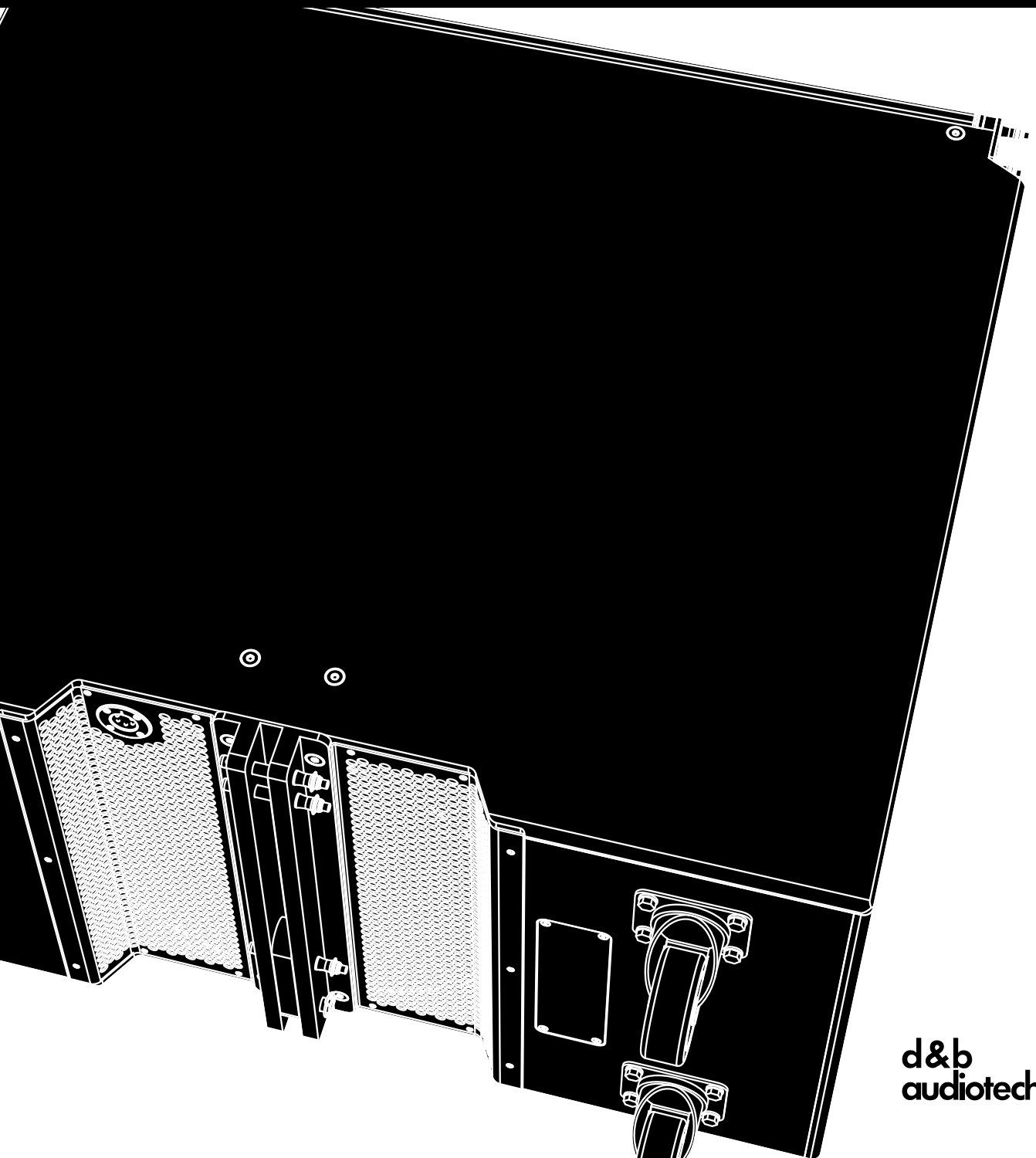
J-SUB
Manual 2.2 en



d&b audiotechnik

General information

J-SUB Manual

Version: 2.2 en, 03/2016, D2982.EN .02

Keep this document with the product or in a safe place so that it is available for future reference.

We recommend you to regularly check the d&b website for the latest version of this document.

When reselling this product, hand over this document to the new owner.

If you supply d&b products, please draw the attention of your customers to this document. Enclose the relevant documents with the systems. If you require additional documents for this purpose, you can order them from d&b.

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1.1 Information regarding the use of loudspeakers

Potential risk of personal injury

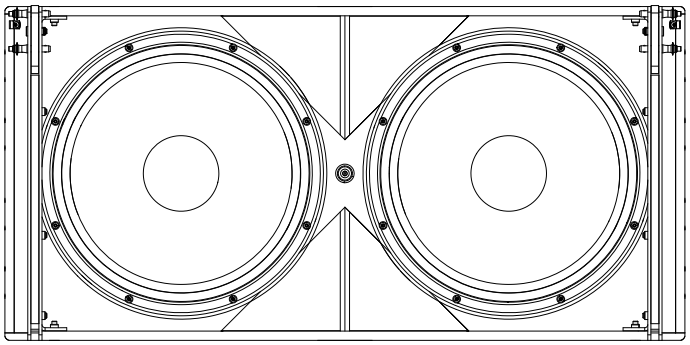
Never stand in the immediate vicinity of loudspeakers driven at a high level. Professional loudspeaker systems are capable of causing a sound pressure level detrimental to human health. Seemingly non-critical sound levels (from approx. 95 dB SPL) can cause hearing damage if people are exposed to it over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



2.1 Product description

The J-SUB is the cardioid subwoofer for the J-Series. It can be used to supplement J8 and J12 cabinets in various combinations, either flown or ground stacked. When the J Flying Frame is used J-SUB cabinets can be flown in columns of up to 16 cabinets or inserted on top of a J8/J12 line array column.

The J-SUB cabinet is an actively driven 2-way bass-reflex design housing three long excursion neodymium 18" 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.

Its frequency response extends from 32 Hz to 100 Hz.

The cabinet is constructed from marine plywood and has an impact and weather protected PCP (Polyurea Cabinet Protection) finish. The front and rear of the loudspeaker cabinet are protected by a rigid metal grill. Each side panel incorporates four handles and mounted on the rear panel are four heavy duty wheels.

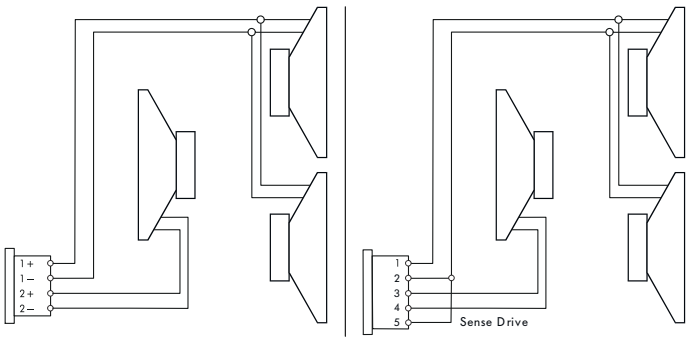
J-Series rigging components and arrays

Cabinets are mechanically connected using the rigging strands at both sides of the cabinet front and a central strand at the rear of the cabinet. All necessary rigging components are mounted to the cabinet and folded or slid out when needed.

A detailed description of the J-Series rigging components is given in the J-Series Rigging manual which is provided with the J Flying frame.

A detailed description of planning and designing J arrays is given in the technical information "TI 385 d&b Line array design, ArrayCalc" which is also provided with the J Flying frame.

The d&b ArrayCalc simulation software can be downloaded from the d&b website at www.dbaudio.com.



NLT4 F and EP5 connector wiring

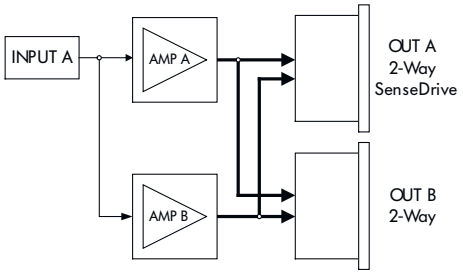
2.2 Connections

The cabinet is fitted with a single NLT4 F connector. It uses the pin assignments 1+/1– for the front drivers. Pins 2+/2– drive the rear driver.

The cabinets can be supplied with EP5 or NL8 connectors as an option.

Pin equivalents of the connector options are listed in the table below.

	LF + Front	LF – Front	LF + Rear	LF – Rear	SenseDrive (SD)
NLT4 F	1+	1–	2+	2–	n.a.
EP5	1	2	3	4	5
NL8	1+	1–	4+	4–	3–



D12 Input/Output routing 2-Way Active mode

d&b LoadMatch

Starting with the D80 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.

d&b SenseDrive

The SenseDrive feature within D12 amplifiers enables electrical compensation for the properties of the loudspeaker cable used. SenseDrive requires an additional sense wire. SenseDrive is therefore only available with EP5 connectors and 5-wire cabling for applicable loudspeakers.

> **Note:** To enable SenseDrive for the front drivers, the loudspeaker cabinet has to be connected to output A.

2.3 Operation

NOTICE!

Only operate d&b loudspeakers with a correctly configured d&b amplifier, otherwise there is a risk of damaging the loudspeaker components.

Applicable d&b amplifiers:
D80/D12/30D.

Amplifier output mode(s): 2-Way Active		
Application	**Setup**	**Cabinets per pair of amplifier channels**
J-SUB	J-SUB J-SUB AP	1 1

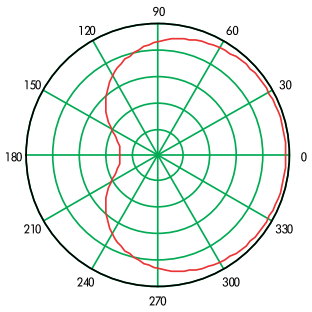
Within applicable d&b amplifiers, the controller setup is available in 2-Way Active mode. Each pair of amplifier output channels drives a single J-SUB or J8 cabinet.

In its standard mode the J-SUB can be used as subwoofer for applicable d&b loudspeaker systems operated in CUT mode. In this mode the two channels of the system are tuned to create a cardioid dispersion pattern thus providing maximum rejection to the rear. It can be used in flown or stacked combinations with a minimum distance of 60 cm (2 ft) between adjacent columns of cabinets.

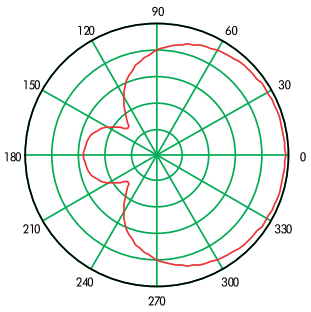
AP setup

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.



Cardioid polar pattern



Hypercardioid polar pattern

2.3.1 Controller settings

For acoustic adjustment the INFRA and HCD mode can be selected.

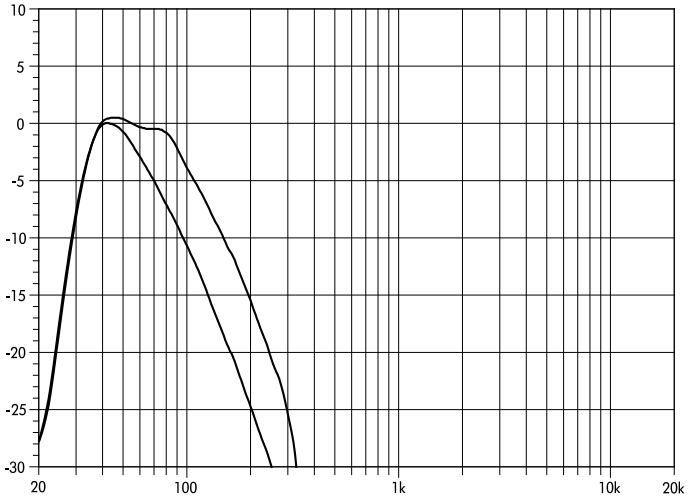
INFRA mode

With the INFRA mode selected, the upper operating frequency of the system is reduced from 100 Hz to 70 Hz. The J-SUB can now be used to supplement applicable d&b loudspeaker systems operated in full range mode.

HCD mode

Selecting HCD (Hypercardioid) optimizes the tuning of front and rear channels for a maximum rejection at the left and right sides behind the cabinet providing a hypercardioid dispersion pattern. This characteristic is particularly useful for a setup with subwoofers stacked at the left and right sides of a stage providing minimum interference onstage.

The HCD mode can be used either freely radiating or in front of walls. The minimum distance to rear walls is provided by the wheels on the cabinet back. Even in HCD mode adjacent columns of J-SUBs have to be at least 60 cm (2 ft) apart.



J-SUB frequency response, standard and INFRA mode

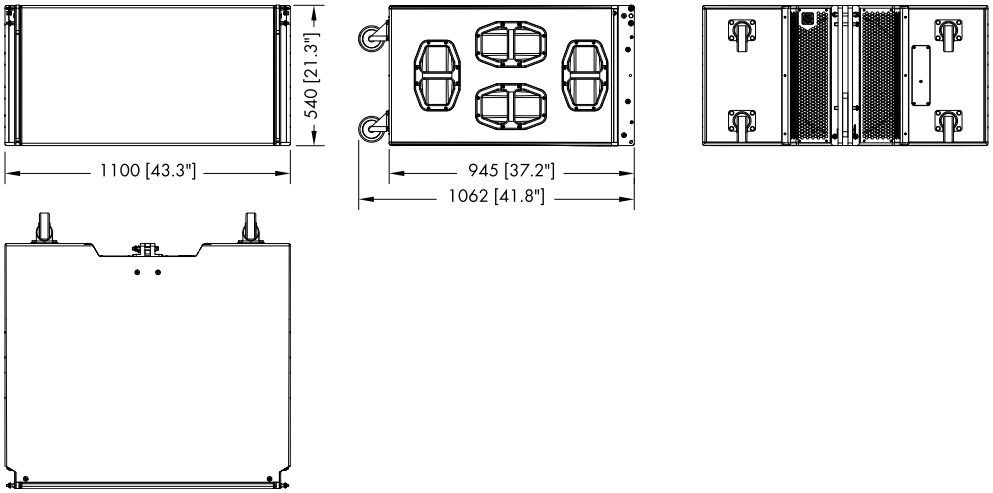
2.4 Technical specifications

J-SUB system data

Frequency response (–5 dB standard) ..... 32 Hz - 100 Hz
Frequency response (–5 dB INFRA mode) ..... 32 Hz - 70 Hz
Max. sound pressure (1 m, free field) .....
with D12/30D ..... 138 dB
with D80 ..... 139 dB
.....(SPLmax peak, pink noise test signal with crest factor of 4)

J-SUB loudspeaker

Nominal impedance Front/Rear ..... 4/8 ohms
Power handling capacity Front (RMS/peak 10 ms) ..... 800/3200 W
Power handling capacity Rear (RMS/peak 10 ms) ..... 400/1600 W
Components ..... 3 x 18" driver
Connections ..... 1 x NLT4 F
..... optional 1 x EP5 or NL8
Pin assignment .....
..... NLT4 F: 1+: Front+/ 1–: Front– / 2+: Rear+/ 2–: Rear–
..... EP5: 1: Front+/2: Front–/ 3: Rear+/4: Rear–/ 5: SD Front
..... NL8: 1+: Front+/1–: Front–/ 4+: Rear+/4–: Rear–/ 3–: SD Front
Weight ..... 106 kg (234 lb)



J-SUB cabinet dimensions in mm [inch]

3.1 EU conformity of loudspeakers (CE symbol)

This declaration applies to:

d&b Z0660J-SUB 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.

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

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